```
Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Total number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        seq
seq

    nucleic search, using sw

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of hits satisfying
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             March 28, 2003, 12:21:38; Search time 13284 Seconds (without alignments)
10154.434 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IDENTITY_NUC Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-927-112-1
4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2054640 seqs, 14551402878 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GenEmbl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tcgcgatctagaactagtgg...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                  gb ba: *
gb htg: *
gb om: *
gb ov: *
gb pat: *
gb pat: *
                                                                                                                                                                                                                                                                                                                                                                                         g
                                             em_ro:*
em_gts:*
em_wi:*
em_wi:*
em_htg_hum:*
em_htg_other:*
em_htg_mus:*
em_htg_mus:*
em_htg_mus:*
em_htg_mus:*
em_htg_wrt:*
                                                                                                                                                                                                                                                                                                                                        gb_ro:*
gb_sts:*
gb_sy:*
em_htgo_hum:*
em_htgo_mus:*
em_htgo_other:*
                                                                                                                                                                                            em_mu:*
em_om:*
em_or:*
em_ov:*
em_pat:*
em_ph:*
                                                                                                                                                                                                                                                                                                                 gb_vi:*
em_ba:*
                                                                                                                                                                                                                                                                               em_hum:*
em_in:*
                                                                                                                                                                                                                                                                                                       em.
                                                                                                                                                                                                                                                                                                                                                                                        pr:*
                                                                                                                                                                                                                                                                                                       _fun:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .....ggtaacggggcccagccccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4109280
```

Ω

Pred. No. is the number of results predicted by chance to have

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.

2838.4 2527.4 545. 328 1540.4 1540.4 1127 323.4 314.4 308.6 308.6 308.6 308.6 308.6 308.6 308.6 308.6 308.6 308.2 308.4 301.8 301.8 301.8 301.8 Score 298.6 297.2 295.2 295.6 299.6 289.8 289.8 288.2 288.6 276.6 Match 24.3 18.6 16.8 16.8 2238 106323 6946 154736 Length 2480 5551 5551 1977 3283 2709 3116 2512 2512 2211 3425 5926 2773 3544 2641 2630 2791 BB 10 10 10 6 6 9 10 10 AX298237 AX298235 BC031392 S74591 RATTPLC3A AX410647 HSU09117 BC025798 AF133125 MMU85711 AK023083 AF498759 AX287194 AX298233 AX358513 AL513477 AX201751 HSM805471 AX247891 AX247889 AB075844 AX420077 AX287200 AK022610 AX411650 AK090774 RNU16655 BOVPLC3A OCPLCMR BC006355 AB028992 AX411647 BC019679 AB007919 AK074240 AX420079 AY033991 AF498759 Sus scrof AX287194 Sequence AX298233 Sequence AX4298233 Sequence AX420079 Sequence AX4270079 Sequence AX287200 Sequence AX287200 Sequence AX247870 Couniculus AX247891 Sequence AX247899 Sequence AX247899 Sequence AX074240 Homo sapi AX074240 Homo sapi AX074240 Homo sapi AX21751 Sequence AL6313477 Human DNA AK090774 Homo sapi AY033991 Mus muscu AX298237 Sequence AX298235 Sequence BC031392 Mus muscu U16655 Rattus norv M20638 Bovine phos BC010668 Homo sapi AX402957 Sequence BC019679 AX411647 AX411650 AK023083 AB028992 AK022610 AB007919 AX402958 AK074149 AX304472 Description AL139246 AX410647 Sequence U09117 Human phosp BC025798 Mus muscu AF133125 Mus muscu U85711 Mus musculu S74591 phospholipa M20637 Rat phospho Homo sapi Sus scrof Sequence Sequence Homo sapi Homo sapi Sequence Homo sapi Homo sapi Sequence Homo sapi Human DNA Sequence Sequence Sequence Homo sap:

383843	Patent	
	4237 bp WO0185956.	
	UNA	!

ALIGNMENTS

LOCUS DEFINITION ACCESSION

VERSION

RESULT 1 AX304472

KEYWORDS SOURCE ORGANISM

REFERENCE

AUTHORS

Homo sapiens Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. AX304472 Sequence 10 from P AX304472 AX304472.1 GI:173 PAT 30-NOV-2001

Das,D., Reddy,R., Yao,M.G., Nguyen,D.B., Lu,Y., Tribouley,C.M., Yue,H., Khan,F.A., Gandhi,A.R., Au-Young,J., Lal,P., Kearney,L., Elliott,V.S., Ding,L. and Thornton,M.

Qy 1167 CTGACCTAC	Qy 1107 GAAGAGTTO	Db 807 ACCCAAGG	747 CTGGAGC	Qy 1067	Qy 1026 AACGTGAACDD 687 AACGTGAACDD	66 27	567	ACC	Qy 937	Qy 906 AGCCTGGCTCGCC	Db 387 GTGGCGCGCACC	327	Db 267 ĠĠĠĊĠĠĊA	726 GGGCGG	Qy 666 CCCTCACG Db 207 CCCTCACG	Db 147 TCCAAGGGC	87	546 G	Query Match Best Local Simil Matches 3926; C	BASE COUNT 81	TITHE LIPIG ME JOURNAL PATENT: FEATURES Source
CTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAG 1226	AAGAGTICTGTGCCTTCTACAAGATGATGTCCACCCGCGGGACCTCTACCTGCTCATG 1166		GGGAAGCTGGCCTGCTCACAGGACAGGGCCCTGGTCGAGGTGCCAATGGGG 8	1066	AACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAG	GACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCCTGC	CACACTGGGGAAGTGGCCGGCCAGAGGGTTGGAGGTGGAGTGGCAGAGCAGACGTTTGACGAGGCC 626	GGACCGGCCCTTGGCTGCTCACCCTGGGGGGGCCTGTCCTTTGCCGGGTCA 56		TCGCCGCCAGCGCACCAGGGACC936	SCACCTGGGTCACTGGCTACCTCATGGCCGGCATTCAGCGACGACGAGGAC 905		CAACTGCTGC	CAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGC 785	CTCACGCAAGAACGAGAAGGCCAAGATCTCCATCGACTCCATCCA	SCTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAGG 665	GCATGGGTGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGC 14	TGGACCGTGCATGGGTGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGC 605	79.5%; Score 3684.6; DB 6; Length 4237; larity 94.6%; Pred. No. 0; Conservative 0; Mismatches 4; Indels 219; Gaps	/note="Incyte ID No: 7472768CB1" 16 a 1327 c 1370 g 724 t	<pre>d metabolism enzymes nt: WO 0185956-A 10 15-NOV-2001; te Genomics, Inc. (US) Location/Qualifiers 14237 /organism="Homo sapiens" /dh xref="taxon.sanc"</pre>
																			2		

2247 CAGAGCCGAGGGGCGACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGAC 2306	Db Qy
7 AAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAGAGAGGGAGAGAGGGAGAGAGGGAGG	유 성
1127 AGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCTTCT	DD QQ
27 AAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGG	Db K
	Q B 1
707 AATCGAAAGCGTGTAGAAAACACTGCTATTTTTTTTTTT	Ş ₽
947 AATCGAAAGCGTGTAGAAAAACACTGCTAAGAGGAAACTGGATTCCCTCATCAAAGAGTC	80
987 GAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGA: 	dg Qy
387 AAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGAT 164	Db
327 AAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTC	Ş
767 AGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAA 	B 8
467 AAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAC	DЬ
707 AAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGAACCTGTCATCAGTG 1	Ş
407 ATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAGCAG 146	Db
647 ATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAGCAG 170	γQ
os/AlicisacticcaasaiccicticaakaakGicatigaatgaagaagaataa 	Db Q
20 JOHN CHENTON CHENTON CONTRACTOR CONTRACTO	?
527 TGCGTGGAGGTGGACTGGGATGGGCCCGACGGGGAGCCCCATTGTGCACCATGGCTAC 158	P &
227 CAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTCCTGCAGGCTGCCTGC	Db
467 CAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTCCTGCAGGCTGGCT	Ş
167 ACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCCTACCTCGTGGGTGAC 122	망
407 ACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCTACCT	Ş
347 ACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACGATGTGCACCAGGACATG 1 107 ACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCACGACACACAC	B 8
047 GAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAACTAC 110	Db
287 GAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAACTAC 1	Q Y
B7 GTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCA	Db .5
27 CTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAG 986	를 불

SGAGGGGCCCGGCAGCGCAGCCCCCGAGGTAAG 3386	327 GGACCTGCTCCGGAAGCCCCAGCCCAGGAGGGGCC 	B 왕
:AGACGATGTGGTG :AGACGATGTGGTG	CCAAGGGGGTGGCAG. CCAAGGGGGTGGCAG	ду 92
AAGCCGGGCCGCAGGGGC 	7 ACGGCCAGCGCCCCGACCAGAGAGCCAGAAGCCGGGCCC 	g qq
gccctccgttagccagcggatcctg gccctccgttagccagcggatcctg	3147 AGTCATGCTGCTGGGCGGCCCCCGGCCCGGCCCTCCG	P 64
TICCTCCGAGGCCCAAAGCCCGGCTCGCTGGAC 3146	3087 AAGCAGGCTCTGGGCCTA 2847 AAGCAGGCTCTGGGCCTA	ρ δ
AGCGGTA AGCGGTA	3027 GGGATGGAAGAGGCCTCC 2787 GGGATGGAAGAGGCCTCC	A 6
GTGTACCTAGAA 3	2967 GGCCAGAGGACGCTGGCC	B 8
CGTGACTT	2907 GAGATCGCGCTGGTCCGC	D Q
G 266	2847 GAC 2607 GAC	B 64
GTGGACTGCAGCAGGGAGCAGACCCGCGTGGTG 2846	2787 GTG 2547 GTG	B &
4-H	2727 CAG 2487 CAG	р 8 8
AAGCAGCTGGTGCTCCGGATCATCAGTGGCCAG 2726 	N N	g &
TGCATGTGCCAGGGCGTGTTCAACCCCAACTCG 2666 	2607 GGC 2367 GGC	B &
CAGCTGAACCGAGCCAAGTTCAGCGCCAACGGT 2606 	2547 AAC 2307 AAC	B 8
TTCTGGAACGCCGGCTGCCAAATGGTTGCCCTG 2546	2487 GAC 2247 GAC	B 8
CTCTCCCGCATCTACCCCTCCTACCGTGTG 2486	2427 CAG 2187 CAG	g 9
AAGGCCCACCAGATTCTGCAGCAGAAGCCGGCG 2426 	2367 TGG 2127 TGG	g 49
ACCCACGACATAGAGATGGAGGCGGCGTCCAGC 2366	2307 CTG 2067 CTG	g &

CTTTGGGCTGAAGCACCCCACT 4466	07 TGCGTGGAGTAGATTCCCTGGGCCCCAGGGCTTCGCTC	44	g g
ACGCCTGGAGCCTGCTGAGTGC 4406	47 AGGTAGTGCAGCTGCTGGGCGTCTCCTGGGCCCCTGGGACG	43	40
TACTGGGAAGTCTGATGTGGGC 4346 TACTGGGAAGTCTGATGTGGGC 4106	87 CATTCCCACCTCCCTCTAGGGCAGGCTCCAGGGGTCCCTAC	40	ם ס
GACTGGGGGCCATGTACCATCC 4286	27 CGGCTGGCGACCTGCATGGCCCCTGATGCCTTTCCTGGGI 	4 & 2 2	ט ס
CCCCAAACTCACCTCC	67 ACTGTGGCCTGACATGCTGGGCCCTCCGGCTGGGCGCTT 	· 41	D. Q
GCTCTTGCTGAGGGTCTGGGGCCGGG 4166	07 GGTTTGAGGCCCGACAGGCTGGGAAGAACCAGCTV 	41 38	ŭ Ó
CCCTGGGACTTGGGTGGAGCT 41	7 TGTGGCCCATAGCCCCAGCCCTCCTGTCTGAGCTTGAGGCC	حد درا	<u>n</u> 10
DACTOTGCTCCCTTGGCTTGCC 4046	7 GTGCTCGTGGCTCTGTATCCGTGGCACTGTCTCCGTGGCA 		E 19
ACGGTGTCGCCTCGTGTGCTC 3986	7 ATGGCTGGGCCTGGGTCACCTGCTGCTGCGTGGAC	w w	<u> </u>
GETCCTCCCGCACGCCCCTGGC 3926	67 CCCATGTTCTCCGCCGGTAAGCCCCTCTTGCCCTGCGTGGT 	38	<u> </u>
GAGGAGATCAGGAGTAAATCC 3866 	07 CTGCAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGG	3 3 5 8	E 9
RGCCTGCAGGCAACCGGGGGCC 3806 RGCCTGCAGGCAACCGGGGGCC 3566	47 CCGGGCATCCCCGAAAGGTCCCCCCGCTGGCCTGAGGGTGG	37	E 8
93ACTCCAGCAGCCCAGACAGC 3746 93ACTCCAGCAGCCCAGACAGC 3506	87 TGGAGGCAGGGTCCAGGCGGTAGCGGCTCCATGTCCTCGGA 	34	₽ <i>9</i>
GCCCCAAGGGTCCTGGGGCC 3686	27 GGCCTGGACCCTCACGCTATCCCCGGGGAGAAGCAGAGAGG 	336	E 9
CACTGGGGGCCCCCTGCTGT 362 	67 CAGGCAGCCATTCGCCAGCAGCCCCGGGCCCGGGCTGACTC	ນ ນ ນ ຫ	Db Oy
AGCCCGGGGCCTGCAAGCAGG 3566	07 GGCGTGAACACCCGGGGGCCTGCAGAGGGAAGCGGCCCACCCA	35	Б 8
TGTGTGGTGGATCCTGCGCC 3506	47 GGCCCCGGGCCTGCTGGGATGGCCGCCACATGCATGAAGT	34 32	₽ <i>S</i>
$H \longrightarrow H$	87 GCGCCAGCTGCGGTGGCAGAGAAGAGCCCCTGTGCGAC 	33	P &

Qy 4467 AGAAGGGTG 4475

```
멍
                             Ş
                                                                                                                                 В
                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 2
AX392826
LOCUS |
DEFINITION
ACCESSION
VERSION
                                                                   밁
                                                                                           S
                                                                                                                                                                Š
                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match

Best Local Similarity

Matches 3342; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
   2008
                                                                                                                                                                                                   1828
                                                                                                                                                                                                                                                                                                                                 1708
                                                                                                                                                                                                                                                                   1768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                   1888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1468
                                                                                                                                                                                                                                                                                                                                                                                                   1648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1528
             966 GACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACCAAGCTC 1025
                                                                                                                                                                                                                                                                                                                                                                                                                                726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  546
GACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCACAAGCTC
                                                                                                                                                                                                                    CACACTGGGGAAGTGGCCGGCCAGAGGGTGGAGTGGCTGAAGCAGACGTTTGACGAGGCC 2007
                                                                                                                                 AGACCCAGGGACCGGCCCTTGGCTCACCCTGGGGGGGCCTGTCCTTTGCCGGGTCA 1947
                                                                                                                                                                                                                                                                 GTGGCGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGAC 1827
                                                                                                                                                                                                                                                                                         GTGGCGCGCACCTGGGTCACTGGCCTGCCCTACCTCATGGCCGGCATCAGCGACGAGGAC 905
                                                                                                                                                                                                                                                                                                                                                    TTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAG 845
                                                                                                                                                                                                                                                                                                                                                                                                                  GGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGC 785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCAAGGGCCTGGTCCGCTTCTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAGG 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGGAGCGGTGCATGGCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGC 1527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGGAGCGGTGCATGGGTGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGC 605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ||||||||
AGAAGGGTG 4235
                                                                                                                                                                                               AGCCTGGCTCGCCGCCAGCGACCAGGGACCAATATCCTTGGGCACCTATCGGGCAATGC 1887
                                                                                                                                                                                                                                                                                                                              TTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAG 1767
                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGACCGCTCCTGCATCCGCTGGAGG 1587
                                                                                                                                                                                                                                                                                                                                                                                               GGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGC 1707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Griffin, J.A., Patterson, C., Gandhi, A.R., Lu, Y., Yao, M.G., Baughn, M.R., Walia, N.K., Hafalia, A.J., Ding, L., Tribouley, C.M., Das, D., Thornton, M. and Lal, P.
Lipid metabolism enzymes
Patent: WO 0216597-A 12 28-FEB-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 12 from Patent WO0216597.
AX392826
AX392826.1 GI:19700922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Incyte Genomics, Inc. (US)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AX392826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Homo sapiens"
/db_xref="taxon:9606"
/note="Incyte ID No: 72023748CB1"
/ 2108 c 2172 g 1041 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1. .6551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61.2%; Score 2838.4; DB 6; 87.7%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                    ----AGTGGCTGAAGCAGACGTTTGACGAGGCC 965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6551 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels 457; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 6551;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PAT 23-MAR-2002
                                                                                                                                                                                                                                  936
                                                                                                                                                                936
```

2006 3147	AATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCATCAAAGAGTCG	1947 3088	dd YQ
1946 3087	GAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCCACC	18 30	B &
1886 3027	AAGGGAAGAAGCTCCCAGCCAACATCAGCGAGGAT	18 29	DD QY
1826 2967	AGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTG	17 29	dg Qy
1766 2907	AAGAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAA	17 28	D QQ
1706 2847	7 ATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAGCAG	2 1	dd VQ
1646 2787	ACTOTGACTTCCAAGATCCTCTTCAAAGACCTCATTGAAACCATCAACAATATGCC 	158 272	D Q
1586 2727	TGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCI	152 266	Db Qy
1526 2667	7 CAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTCCTGCAGGCTGGCT	2 1	Db Qy
1466 2607	ACGCAGCCGCTGAGCCACTACTTCAT	140 254	D Q
	ACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGACAT	134 248	₽ Q
1346 2487	7 GAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAACTAC	128 242	d do
1286 2427	7 GTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTT	122 236	DF Q
1226 2367	7 CTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAG	116 230	F &
1166 2307	TGTGCCTTCTACAAGATGATGTGCCACCCG 	110 224	B 8
1106 2247	GGAAGCGGACACGGAT 	106 218	da Võ
2187	aagggaagctggcctgctcacaggacagggccctggtcgaggtgccaatggg	212	멅
		106	S
1066	6 AACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAG	102	å Š

2850 GACAACGGGTTCAACCCCACCTGGGAGGAGACCCCTGGTTTTCATGGTGCACATGCCGGAG 2909	
4168 GAGGTGGAGATCATTGGGCTCCCTGTGGACTGCAGCAGGGAGCAGGACCCGCGTGGTGGAC 4227	
CTCCCTGTGGACTGCAGCAGGGAGCAGACCC	
108 CTTCCCAAG	
CCAAGCCGCGCGACTCCATGCTGGGGGAGACCGTGGGGAGATCATCGACCCCTTTGTG 2	
0 0	В Q 4
B8 TGCGGCTACGTACTCAAGCCTGGGTGCATGTGCCAGGGCGTGTTCAACCCCAACTCGGAG 40	
2550 TACCAGTCAGAGGGGGGATGCTGCAGCTGAACCGAGGCCAAGTTCAGCGCCCAACGTTGGC 2609 1	
868 TCCAGCAACTACAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAAC 39	
4.	
00	
2430 TACCTACGCTTCAACCAGCAGCAGCTCTCCCCGCATCTACCCCTCCTCCTACCCGTGTGGAC 2489	
7	
ũ	
3688 GTGAAGTACACCAAGTCCGTGGCCACCACGACATAGAGATGGAGGCGGCGTCCAGCTGG 3747	
	N
2250 AGCCGAGGGGCACCCGGCAGAGAAAACCATGAAGCTGTCCCGGGCCCTCTCTGACCTG 2309	ωΝ
568 CTGAAGAAGGCGGCCAGCGTGGAGGAGGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAG 36	w
190 CTGAAGAAGGCGGCCAGCGTGGAGGAGGAGGAGGTGAGGGTCACGACTCCCCGGGAGGCCAG 22	N
	ων
4	ω
2081	N
w	w
0	
w	ω
0	N
3268 GACAGCCAGCCTGTGGGCCAGCCAGGGCCCCCGAACCGAGGCAGTGTCCAGGCAGG	w
2081 2080	
2 0	рь 3:
٠	
9	

3000 3899 	.870 ATGTTCTCCGCCGGTAAGCCCCTCTTGCCC 389	DB QQ
TCAAAAGCTGGAGGAGATCACGAGTAAATCCCCC 3869	10 CAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGG 	dd VQ
SCCTGAGGGTGCCTGCAGGCAACCGGGGGGCCCTG 3809	750 GGCATCCCCGAAAGGTCCCCCCGCTGGG	Ag Ag
DATGTCCTCGGACTCCAGCAGCCCAGACAGCCCG 3749	3690 AGGCAGGGTCCAGGCGGTAGCGGCTCCATGTCCTCGGACT	Db Qy
GCAGAGAGGCCCCCAAGGGTCCTGGGGCC 	630 CTGGACCCTCACGCTATCCCGGGGAGAAAC	Qy db
CGGGCTGACTCAC CGGGCTGACTCAC	70 GCAGCCATTCGCCAGCAGCCCCGGGCC 	η γς
GCGCCACCCAGCCCGGGCCTGCAAGCAGGCAG 3569	510 GTGAACACCGGGGGCCTGCAGAGGGAGCGGCCAC 	Db Qy
ATGCATGAAGTGTGTGGTGGGATCCTGCGCCGGC 3509	450 CCCGGGCCTGCTGGGATGGCCGCCACATGCATG 	Dp Qd
rereceaerecececerereres 3449	390 CCAGCTGCGGTGGCAGAGAAGAGCCCTGTG	дь У О
3GGGCCGGCAGCGGCAGCCCCCGAGGTAAGGCG 3389	330 CCTGCTCCGGAAGCCCCAGCCCAGGAGGGGCC 	Db Qy
gorggcagacgargroggroccccccggccccga 3329 	70 GGTACACGGGACACAGGCTCCAAGGGGGTG	Db 09
CGGGGCCGCAGGGGCTTCCCCGGAGCTGGTCCTG 3269	5 2	B 8
CCTCCGTTAGCCAGCGGATCCTGCGGCGCACG 3209	150 CATGCTGCTGGGCGGCCCCGGGCCGGCCCTCCC	Db Qq
CCCAAAGCCCGC CCCAAAGCCCGC	90 CAGGCTCTGGGCCTAAAAGGCCTCTTCCTC	P 64
GTGGCTGTCAGTGACATCAGCGGTAAGGTCAAG 3089	030 ATGGAAGAGGCCTCCATCTTCGTGCATGTGGCTGT	D Q
ATGCCAGGCTACAGACACGTGTACCTAGAAGGG 3029	o cagaggacgctggccttcagcagcatgatgccagg	P &
GACCACGATCCCATCGGGCGTGACTTCATTGGC 2969	910 ATCGCCCTGGTCCGCTTCCTCGTCTGGGACCACGA 	D Qy
	GACCCT	₽

```
밁
                                             Ś
                                                                                        밁
                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL REFERENCE
                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                     BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Snoo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
TITLE
                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                            Matches 2542;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                   2087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                               147
    61
                                                                                          _
                         GGCTGAAGAGGAAATGGAGTCTGGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCT
                                                                                                                 GGCTGAAGAGGACGTGGAGTCTGGGGAGGGATGCCGGGGGCCAGCAGACGCAATGGCCGCCT 2146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NEDO human cDNA sequencing project supported by Ministry of Economy, Trade and Industry of Japan; cDNA full insert and 5'- & 3'-end one pass sequencing: Research Association for Biotechnology; CDNA, library construction and clone selection: Kazusa DNA Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Institute, Department of Human Gene Research; 1532-3, Yana, Kisarazu, Chiba 292-0812, Japan (E-mail:cdnainfo@kazusa.or.jp, URL:http://www.kazusa.or.jp/NEDO, Tel:81-438-52-3913,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Published Only in Database (2002)
2 (bases 1 to 4411)
Jikuya,H., Takano,J., Nomura,N., Kikuno,R., Nagase,T. and Ohara,O.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (21-JAN-2002) Takahiro Nagase, Kazusa DNA Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AK074149.1
fis (full i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fax:81-438-52-3914)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      fis (full insert sequence).
Homo sapiens adult spleen cDNA to mRNA, clone:FLJ00222.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AK074149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Jikuya,H.,
                                                                                                                                                                                                                                                                                     740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nucleotide
                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sapiens mRNA for FLJ00222 protein.
                                                                                                                                                                                                                                                                                                                                                                  QALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPEL
VLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGPGSGSPRGKAPAAVAEKSPVRVRPLR
VLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSL
                                                                                                                                                                                                                                                                                                                                                                                                                                  /translation="AEEEMESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEG DEGQDSPGGGRGATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSET KAHQILQOKPAQYLRFNQQKGRATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSET KAHQILQOKPAQYLRFNQQQLSRIYPSVENDROPFWARAGCQWVALNVQSEGR MLQLANGAKFSANGGCGVYLKPGCMCQQVFNPNSEDPLPGDLKKQLVLNI ISQQLPKFRDSMLGDRGEIIDFVEVEIIGLFVDCSREQTEVVDDNGFNPTWEETLVFMVHNPEIA LVRFLVWDHDDIGRDFIGQRTLAFSSMMPGYRHVYLEGMEBASIFVHVAVSDISGKVK
                                                                                                                                                                                                                                                                                                         AWTVSPRVLVLVALYPWHCLRGTLLPWLACGP"
                                                                                                                                                                                                                                                                                                                            GAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPEG
ACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /evidence=not_experimental
/product="FLJ00222 protein"
/protein_id="BAB84975.1"
/db_xref="GI:18676646"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            codon_start=2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note="Start codon is not identified."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene="FLJ00222"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="FLJ00222"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       note="vector:pBluescriptII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              dev_stage="adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tissue_type="spleen"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone="FLJ00222"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Takano, J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GI:18676645
                                                                                                                                                                                                                                                                                   1528 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .441
                                                                                                                                                                                               54.5%;
99.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ano,J., Nomura,N., Kikuno,R., Nagase,T. and Ohara,O.
sequence of a long cDNA clone isolated from human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                          °.
                                                                                                                                                                                                                                                                                   1438
                                                                                                                                                                        Score 2527.4;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4411 bp
                                                                                                                                                                                                                                                                                   ω
                                                                                                                                                                                                                                                                                   705
                                                                                                                                                                                                                                                                                   c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mRNA
                                                                                                                                                                                                                   DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SK plus"
                                                                                                                                                                        6;
                                                                                                                                                                                                                   9
                                                                                                                                                                        Indels 1;
                                                                                                                                                                                                                   Length 4411;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRI 15-FEB-2002
                                                                                                                                                                        Gaps
                                                                                      60
                                                                                                                                                                        1;
```

```
Ş
                                       망
                                                                      Ş
                                                                                                                 밁
                                                                                                                                                  Ś
                                                                                                                                                                                       В
                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                       1141
3287 CTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCGGGCCCCGGACCTGCTCCGGAAGCCCC 3346
                                                                                                                                                    3167
                                                                                                                                                                                                                            3107
                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                    3047
                                                                                                                                                                                                                                                                                                                                                                             2987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2747
                                                                                                                                                                                                                                                                                                                                                                                                                                                     2927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2507 GCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2207 CGTGGAGGAGGAGATGAGGGTCAGGACTCCCCCGGGAGGCCAGAGCCGAGAGCCGAGCCCG
                                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                            GAGCCAGAAGCCGGGCCGCAGGGGCTTCCCCGGAGCTGGTTCCTGGGTACACGGGACACAGG
                                                                                                               CCCGGCCCGGCCTCCGTTAGCCAGCGGATCCTGCGGCGCACGGCCAGCGCCCCGACCAA
                                                                                                                                        CCCGGCCCGGCCTCCGTTAGCCAGCGGATCCTGCGGCGCACGGCCAGCGCCCCGACCAA
                                                                                                                                                                                       AGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCC
                                                                                                                                                                                                           AGGCCTCTTCCTCCGAGGCCCAAAGCCCCGGCTCGCCTGGACAGTCATGCTGCTGGGCCGCC
                                                                                                                                                                                                                                                               CTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAA
                                                                                                                                                                                                                                                                                             CTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAA
                                                                                                                                                                                                                                                                                                                                      CAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCAT
                                                                                                                                                                                                                                                                                                                                                                           CAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCAT
                                                                                                                                                                                                                                                                                                                                                                                                              CCTCGTCTGGGACCACGATCCCATTGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCTGGGAGGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTT 2926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTCCCTGTGGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTCCCTGTGGACTGCAGCAGGAGCAGACCCCGCGTGGTGGACGACAACGGGTTCAACCC 2866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTCCATGCTGGGGGACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCCATGCTGGGGGACCGTGGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGA 2746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCTGGGTGCATGTGCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCTGGGTGCATGTGCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCA 2686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACCTGGGAGGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCAGCAGCTCTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTACAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCAGCAGCTCTCCCGCATCTACCCCTCCTCCTACCGTGTGGACTCCAGCAACTACAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACCAAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACCAAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGTGGAGGAGGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGGGGGGACCCG
                                                                          3286
                                                                                                                                                  3226
                                                                                                                                                                                                                                                                                                  3106
                                                                                                                                                                                                                                                                                                                                       960
                                                                                                                                                                                                                                                                                                                                                                                                                                                   2986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                       1080
                                                                                                                                                                                                                                                               1020
                                                                                                                                                                                                                                                                                                                                                                           3046
                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2266
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                   밁
                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      吊
                                                           δ
                                                                                           밁
                                                                                                                á
                                                                                                                                              밁
                                                                                                                                                                      5
             Ś
                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1441
                                                                                                                        4247
                                                                                                                                                2101
                                                                                                                                                                           4187
                                                                                                                                                                                                    2041
                                                                                                                                                                                                                             4127
                                                                                                                                                                                                                                                        1981
                                                                                                                                                                                                                                                                                                            1921
                                                                                                                                                                                                                                                                                                                                    4007
                                                                                                                                                                                                                                                                                                                                                                1861
                                                                                                                                                                                                                                                                                                                                                                                                                   1801
                                                                                                                                                                                                                                                                                                                                                                                                                                            3887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3827
                  4367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAAGAGCCCTGTGCGAGTGCGGCCCCCGCGTGTCCTGGACGGCCCCGGGCCTGCTGGGAT 3466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCCCGGGCCCGGGCTGACTCACTGGGGGCCCCCTGCTGTGGCCTGGACCCCTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGCCGCCACATGCATGAAGTGTGTGGTGGGAGTCCTGCGCCGGGGTGAACACCGGGGGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCCCAGGAGGGGCCCGGCAGCCGCAGCCCCGAGGTAAGGCGCCAGCTGCGGTGGCAGA 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCCCAGGAGGGGCCCGGCAGCCGCCCCGAGGTAAGGCGCCAGCTGCGGTGGCAGA 3406
                                                                                                                                                                                                                                                                                                                                                                                                                   GCCCTCTTGCCCTGCGTGGTCCTCCCGCACGCCCTGGCATGGCTGGGCCTGGGTCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCCTCTTGCCCTGCGTGGTCCTCCCGCACGCCCCTGGCATGGCTGGGCCTGGGTCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTGTTTGCTCAAAAGCTGGAGGAGATCAGGAGTAAATCCCCCATGTTCTCCCGCCGGTAA 3886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCCCGCTGGCCTGAGGGTGCCTGCAGGCAACCGGGGGGGCCCTGCAGGGAGAGATGAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCCCGCTGGCCTGAGGGTGCCTGCAGGCAACCGGGGGCCCTGCAGGGAGAGATGAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TAGCGGCTCCATGTCCTCGGACTCCAGCAGCCCAGACAGCCCGGGGCATCCCCGAAAGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TAGCGGCTCCATGTCCTCGGACTCCAGCAGCCCGAGACAGCCCGGGCATCCCCCGAAAGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCGGGGAGAAGCAGAGAGGCCCCCAAGGGTCCTGGGGCCTGGAGGCAGGGTCCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCGGGGAGAAGCAGAGAGGCCCCCAAGGGTCCTGGGGCCTGGAGGCAGGGTCCAGGCGG 3706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCCCGGGCCCGGGCTGACTCACTGGGGGGCCCCCTGCTGTGGCCCTGGACCCTCACGCTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCCGCCACATGCATGAAGTGTGTGGTGGGATCCTGCGCCGGCGTGAACACCGGGGGCCT
GTCTCCTGCGCCCCTGGGACGCCTGGAGCCTGCTGAGTGCTGCGTGGAGTAGATTCCCTG
                                                                                                          GCCCCTCCGGCTGGGCGCTTCCCCCAAACTCACCTCCTGGGCGGCCTGGCGACCTGCATGGC
                                                                                                                                                                                                                  GGGAAGAACCAGCTGCTCTTGCTGAGGGTCTGGGGCCGGGACTGTGGCCTGACATGCTGG
                                                                                                                                                                                                                                                                      CTCCTGTCTGAGCTTGAGGCCCTGGGACTTGGGTGGAGCTGGTTTGAGGCCCGACAGGCT
                                                                                                                                                                                                                                                                                                                              GTGGCACTGTCTCCGTGGCACTCTGCTCCCTTGGCTTGCCTGTGGCCCATAGCCCCAGCC
                                         GCAGGCTCCAGGGGTCCCTACTGGGAAGTCTGATGTGGGCAGGTAGTGCAGCTGCTGGGC
                                                                   GCAGGCTCCAGGGGTCCCTACTGGGAAGTCTGATGTGGGCAGGTAGTGCAGCTGCTGGGC
                                                                                                                                                 GCCCCTCCGGCTGGGCGCTTCCCCAAACTCACCTCCTGGGCGGCTGGCGACCTGCATGGC
                                                                                                                                                                                                    GGGAAGAACCAGCTGCTCTTGCTGAGGGTCTGGGGCCGGGACTGTGGCCTGACATGCTGG
                                                                                                                                                                                                                                                        CTCCTGTCTGAGCTTGAGGCCCTGGGACTTGGGTGGAGCTGGTTTGAGGCCCGACAGGCT
                                                                                                                                                                                                                                                                                                            GTGGCACTGTCTCCGTGGCACTCTGCTCCCTTGGCTTGCCTGTGGCCCATAGCCCCAGCC
                                                                                                                                                                                                                                                                                                                                                                 recrecrecrecereeaceerereecerereereereereereereereerereraree
                                                                                                                                                                                                                                                                                                                                                                                         3586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1260
                                                                                                                                                                           4246
                                                                                                                                                                                                                                                                                   4126
                                                                                                                                                                                                                                                                                                              1980
                                                                                                                                                                                                                                                                                                                                       4066
                                                                                                                                                                                                                                                                                                                                                                 1920
                                                                                                                                                                                                                                                                                                                                                                                           4006
                                                                                                                                                                                                                                                                                                                                                                                                                      1860
                                                                                                                                                                                                                                                                                                                                                                                                                                               3946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1440
                                                                     4366
                                                                                                                                                  2160
                                                                                                                                                                                                      2100
                                                                                                                                                                                                                                4186
                                                                                                                                                                                                                                                         2040
                                            2280
                                                                                               2220
                  4426
                                                                                                                          4306
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 4
AX402958
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                  5
                                                         밁
                                                                             S
                                                                                                                 멼
                                                                                                                                           Ş
                                                                                                                                                                          망
                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
ORGANISM
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 2162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4547
                                                                                                                                                                                                                                                                                                                           112
                                                                                                                                                                                                                                                                  172
301
                           412
                                                         241
                                                                                     352
                                                                                                                  181
                                                                                                                                                                             121
                                                                                                                                                                                                       232
                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                              Н
                                                                                                                                                                                                                                                                                                             GGCCCTGAGGCTGAGGGGCTGAGTGCTCATTCCAGCCGCCTCGGGGAACCCCGGGCTGGGA
                                                                                                                                                                                                                                                                                                                                                         2162;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCAAGCTTTCCTGCCCCCCACCCCACGCTTGCCTCCGTAGTTAGGAACTGAGAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCCCAGGGCTTCGCTGCTTTGGGCTGAAGCACCCCACTAGAAGGGTGTCTCCTTAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCTCCTGCGCCCCTGGGACGCCTGGAGCCTGCTGAGTGCTGCGTGGAGTAGATTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGAGTGACAGGTAACGGGGCCCAGCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGAGTGACAGGTAACGGGGCCCAGCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCAAGCTTTCCTTTCTGCCCCCACCCACGC-TGCCTCCGTAGTTAGGAACTGAGAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGAGGGAGGACATACACGGAGCCCGCCCACACCACCCTGCCCCTCCAGACCCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGAGGGAGGGACATACACGGAGCCCGCCCCACACCCTGCCCCTCCAGACCCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCCCCAGGGCTTCGCTGTTTGGGCTGAAGCACCCCAATAGAAGGGTGTCTCCTTAGCC
                                                                                                                                                                                            GGGCTGGGCACCACCAGGCTTGGGTGTGATGCGCTGCTGGTCGACCCCAGGCTACACCCCCGAC
                                                                                                                                                                                                                                     GACCCCATGCCTGGGGGTGAGCCTGGAGCCAGGGCAGTGCGGTGAGAGGCCTCCGGAGAGA
                                                                                                                                                                                                                                                      GCCCTGAGGCTGAGTGCTCATTCCAGCCGCCTCGGGGAACCCGGGCTGGGA
                  CGACAGTCCTCAGTCCCTCCATGATGGCTCCCCCGACAGCCGGCCCCCTTCCTGGCCCAG
                                                       TGGACGGCCGGCCCAGCTGGTGATCCCAGCCAGCTTTCAGTTGCTGCCCCCAC
                                                                             TGGACGGCCGGCCCCAGCTGGTGATCCCAGCCAGCCAGCTTTCAGTTGCTGCCCCCAC
CGACAGTCCTCAGTCCCTCCATGATGGCTCCCCGACAGCCGGCCCCCTTCCTGGCCCAG
                                                                                                                  AAGGGACACCGGGGGCCCCGGGAGCAGAGAGACCTCAGAGCAGCCTCCTCCTCCTCCTC
                                                                                                                                               AAGGGACACCGGGGGCCCTGGGAGCAGAGAGCCTCAGAGCAGCCTCCTCCTGCCTCCTG
                                                                                                                                                                           GGGCTGGGCACCACCAGGCTTGGGTGTGTGATGCGCTGCTGGCCCAGGCTACACCCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tang,Y.T., Azimzai,Y., Das,D., Thornton,M., Lu,D.A.,
Tribouley,C.M., Yue,H., Gandhi,A.R., Walia,N.K., Khan,F.A.,
Yao,M.G., Hafalia,A.J., Elliott,V.S., Patterson,C., Lal,P.,
Ramkumar,J., Nguyen,D.B. and Baugn,M.R.
Lipid metabolism molecules
Patent: WO 0204490-A 10 17-JAN-2002;
Incyte Genomics, Inc. (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 10 from Patent AX402958 AX402958.1 GI:21387941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AX402958
                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                      46.6%; Score 2161.4; illarity 100.0%; Pred. No. 0; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                              /db_xref="taxon:9606"
/note="Incyte ID No: 2965233CB1"
678 c 691 g 375 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2243 bp
WO0204490.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
                                                                                                                                                                                                                                                                                                                                                                                      DB 6;
                                                                                                                                                                                                                                                                                                                                                         سر
--
                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PAT
                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-JUN-2002
                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2519
                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                 60
   360
                              471
                                                             300
                                                                                        411
                                                                                                                     240
                                                                                                                                                   351
                                                                                                                                                                              180
                                                                                                                                                                                                            291
                                                                                                                                                                                                                                                                                                                                                            0
```

1551 1440	492
1491 1380	Ω Ω
1431 1320	372 TCAACCCTGAGGACCACCATGTGGACCAGGACATGAGGGG
1371 1260	312 AGGGCTGCTGGGCATTGATGGCTTCACCAACTACACCAGGACTALACTACACCAGGACTALACTACACCAGGACTACACACCAGGACTACACACAC
1311 1200	252 CCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAC
1251 1140	192 ACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTC
1191 1080	132 TGATGTCCACCCGCCGGGACCTCTACCTGCTCATGCTGACCTACAGCA
Ñώ	072 CGGACACGGATGACCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACA
	12 TGCTGCACAAGCTCAACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGA
1011	52 CGTTTGACGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCA
951 840	92 TCAGCGACGAGGACAGCCTGGCTGGCTCGCCGCCAGGGACCAGGGACCAGTGGCTGAAG
891 780	32 CCACCAGCAGCGAGGTGGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCC
831 720	72 ACCCCAACTGCTGCTTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGT
771 660	2 AGGAGGTGAGTGAGGGGGGGGGGAGTCGGAGI
711	52 GCATCCGCTGGAGGCCCTCACGCAAGAACGAAGAACGCU
651 540	CTTCTAC
591 480	32 ACATTCTGCCCGTGGTGGAGCGGTGCATGGGTGCCATGCAAGAGGGGATGCAGAT
531 420	2 CTCTTCCGCCTGAGGACCCAGGGCCGGATCCGGAGAGCAGGTGGCTTTTC

밁

JOURNAL MEDLINE REFERENCE

TITLE

Nakajima,D., Nomura,N. and Ohara,O.
Characterization of cDNA clones in size-fractionated cDNA libraries from human brain
DNA Res. 4 (5), 345-349 (1997)
98116662
2 (bases 1 to 6946)

REFERENCE

AUTHORS

Seki,N.,

Ohira, M., Nagase, T., Ishikawa, K.,

Miyajima, N.,

(sites)

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

5

Ş

유정

₽

á

유 성

Š

밁

8

유 성 유 성

상 참 상 참 상

밁

В

8 B

```
RESULT 5
AB007919
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                       밁
                                                                                                                                                                                               á
                                                                                                                                                                                                                          맑
                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                          Ş
                                  SOURCE
                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
         ORGANISM
                                                                                                                                                                      2161
                                                                                                                                                                                                                           2101
                                                                                                                                                                                                                                                      2212
                                                                                                                                                                                                                                                                                                                                    1981
                                                                                                                                                                                                                                                                                                                                                                                                                                           1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1972
                                                                                                                                                                                                                                                                                2041
                                                                                                                                                                                                                                                                                                                                                                                                                 2032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1612
ON Homo sapiens mRNA for KIAA0450 prc
N AB007919
AB007919.1 GI:3413861
KIAA0450 protein.
Homo sapiens male brain cDNA to mRU
plus clone:HG0217.
N Homo sapiens
                                                                                                                                                                                                                                         AGGAGGAGATGAGGGTCAGGACTCCCCGGGAGGCCCAGAGCCCGAGGGGCCGACCCCGGCAGA 2271
                                                                                                                                                                                                                                                                                                                                                                                                                                         CTAAGAGGAAACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCA
                                                                                                                                                                         AGA
                                                                                                                                                                                                AGA 2274
                                                                                                                                                                                                                                                                                           TGGGAAGCTTCTCCAGGCGCAAGAAGAAGGAGCAGCAAGCTGAAGAAGCGGCCAGCGTGG
                                                                                                                                                                                                                                                                                                                                                   AAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGGCCAGCAGACGCAATGGCCGCCTCGTCG
                                                                                                                                                                                                                                                                                                                                                                                                       ACAACTTCTCCGTCTCCACACTGTCCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGACTGCAAGCTCCTCAATGGGGATGCATCCAACCAATCGAAAGCGTGTAGAAAACACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCAGCGAGGATGCGGAAGGAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGGAAGAAGCTCCCAGCCAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGCCCGACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCA
                                                                                                                                                                                                                          AGGAGGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGGGGGCCACCCCGGCAGA
                                                                                                                                                                                                                                                                               AAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGCCAGCAGGCAATGGCCGCCTCGTCG
                                                                                                                                                                                                                                                                                                                                                                                      ACAACTTCTCCGTCTCCACACTGTCCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTCCATCGAAAACCACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCAGTATCTGACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGACGTCATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGACTGCAAGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGGAAGAAGCTCCCAGCCAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTCCATCGAAAAACCACTGCAGTGTCATCCAGCAGAAGAAATGGCCCAGTATCTGACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGACGTCATTGAAACCATCAACAATATGCCTTCATCAAGAATGAGTACCCAGTGATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACACACTCC
                                                                                                                                                                         2163
                                                                                      protein,
                                  mRNA,
                                                                                                    mRNA
                                clone_lib:pBluescriptII
                                                                                      complete cds
                                                                                                   linear
                                                                                                    13-AUG-1998
                                                                                                                                                                                                                          2160
                                                                                                                                                                                                                                                                             2100
                                                                                                                                                                                                                                                                                                         2211
                                                                                                                                                                                                                                                                                                                                  2040
                                                                                                                                                                                                                                                                                                                                                            2151
                                                                                                                                                                                                                                                                                                                                                                                        1980
                                                                                                                                                                                                                                                                                                                                                                                                               2091
                                                                                                                                                                                                                                                                                                                                                                                                                                           1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1611
                                  SZ
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                           Ş
                                                                                                                   밁
                                                                                                                                             S
                                                                                                                                                                                        밁
                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
         Ś
                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 1552; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3082
                                                                                                                                                                                                                                                                                                                                                                                                    3648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SdC
                                                                                                                                                      3442
                                                                                                                                                                                         3828
                                                                                                                                                                                                                                                              3768
                                                                                                                                                                                                                                                                                               3322
                                                                                                                                                                                                                                                                                                                                  3708
                                                                                                                                                                                                                                                                                                                                                                     3262
                                                                                                                                                                                                                                                                                                                                                                                                                                         3202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3528
                                                                                                                                                                                                                                                                                                                                                                                                                          GGCGCACGGCCAGCGCCCCGACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTCCCCGGAGC 3261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGACAGTCATGCTGCGGCGGCCCCCGGCCCCGGCCCTTAGCCAGCGGATCCTGC 3201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCCGGCTCGC 3587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGTCAAGCAGGCTCTGGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGC 3141
                                                                                                                                                                                                                           GTAAGGCGCCAGCTGCGGTGGCAGAGAAGAGCCCTGTGCGAGTGCGGCCCCCGCGTGTCC
                                                                                                                                                                                                                                                               GGCCCGGACCTGCTCCGGAAGCCCCAGCCCAGGAGGGGCCCGGCAGCCGGCAGCCCCCGAG
                                                                                                                                                                                                                                                                                                 GGCCCGGACCTGCTCCGGAAGCCCCAGCCCAGGGGGGCCCCGGCAGCGGCAGCCCCCGAG
                                                                                                                                                                                                                                                                                                                                                      TGGTCCTGGGTACACGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                        GGCGCACGGCCAGCGCCCCGACCAAGAGGCCAGAAGCCCGGGCCGCAGGGGGCTTCCCCGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGACAGTCATGCTGGGCGGCCCCGGCCCGGCCCTCCGTTAGCCCAGCGGATCCTGC
GCAGGCAGGCAGCCATTCGCCAGCAGCCCCGGGCCCGGGCTGACTCACTGGGGGCCCCCT
                                              GCGCCGGCGTGAACACCGGGGGCCTGCAGAGGGAGCCGGCCCAGCCCGGGGCCTGCAA
                                                                       GCGCCGGCGTGAACACCGGGGGCCTGCAGAGGGGAGCGGCCACCCAGCCCAGCCCGGGGCCTGCAA
                                                                                                                   GTAAGGCGCCAGCTGCGGTGGCAGAGAGAGCCCCTGTGCGAGTGCGGCCCCCCGCGTGTCC
                                                                                                                                                                                                                                                                                                                                    TGGTCCTGGGTACACGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ohara,O.
Direct Su
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Submission

Submitted (08-OCT-1997) Osamu Ohara, Kazusa DNA Research Institute, Laboratory of DNA Technology; Yana 1532-3, Kisarazu, Chiba 292-0812, Japan (E-mail:cdnainfo@kazusa.or.jp, Tel:+81-438-52-3913,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fax:+81-438-52-3914)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /Translation="MPLIGPTCDGQVRRGQFLDEGWGGDCVLRSVAATVPGRAALGTL
/LKALVCPHTPSLRWSSPSDROTHGTSVARSGELALGGDQQLGWDPWQQLHGLLLLQV
KQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPE
LVLGTRDTGSKGVADDWVPPGPGPAPBAPADEGFGSGSPGKAPAAVAEKSPVRVRPP
RVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADS
LGAPCCGLDPHAIPGRSREAPKGPGAWTGGLQRERPPSPGPASRQAAIRQQPRARADS
GACRQPGALQGEMSALFAQKLEBIRSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAA
SAWTVSPRVLVLVALYPWHCLRGTLLPWLACGP"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /protein_id="BAA32295.1"
/db_xref="GI:3413862"
/translation=""
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /gene="KIAA0450"
3227. .4504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .6946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="KIAA0450"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product="KIAA0450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tissue_type="brain"
clone_lib="pBluescriptII SK plus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'chromosome="1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      clone="HG0217"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .6946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     33.2%; Score 1540.4; DB 9; 99.9%; Pred. No. 5.9e-236;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6946;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
            3621
                                                                                                                                                      3501
                                                                                                                                                                                         3887
                                                                                                                                                                                                                            3441
                                                                                                                                                                                                                                                               3827
                                                                                                                                                                                                                                                                                               3381
                                                                                                                                                                                                                                                                                                                                    3767
                                                                                                                                                                                                                                                                                                                                                                     3321
                                                                                                                                                                                                                                                                                                                                                                                                         3707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3647
                                                                                                                     3947
                                                 4007
                                                                                    3561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
```

밁

4008

GCAGGCAGGCATTCGCCAGCAGCCCCGGGCCCGGGCTGACTCACTGGGGGCCCCCT

4067

RESULT 6 AL139246 LOCUS

AL139246

154736 bp

DNA

linear

PRI 16-NOV-2001

1612

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KEYWORDS
SOURCE
   Ś
                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                        Query Match
Best Local (
                                                                                                                                                                                             Matches 1552;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                               55300 AGGTCAAGCAGGCTCTGGGCCTAAAAAGGCCTCTTCCTCCGAGGCCCAAAAGCCCGGCTCGC 55359
3142 TGGACAGTCATGCTGCTGGGCGGCCCCCGGCCCTCCGTTAGCCAGCGGATCCTGC 3201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                           3082 AGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCCGGCTCGC 3141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.

This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone; and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em:, EMSI, SW:,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     http://www.sanger.ac.uk/Projects/C_elegans/wormpep This sequence was generated from part of bacterial clone contigs of human chromosome 1, constructed by the Sanger Centre Chromosome 1 Mapping Group. Further information can be found at http://www.sanger.ac.uk/HGP/Chr1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk On Nov 17, 2001 this sequence version replaced gi:15912352. During sequence assembly data is compared from overlapping clones. Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This sequence is the entire insert of clone RP3-395M20 The true left end of clone RP4-755G5 is at 90075 in this sequence. The true right end of clone RP4-755G5 is at 90078 in this sequence. The true right end of clone RP4-755G5 is at 135438 in this sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SWISSPROT; Tr., TREMBL; Wp:, WORMPEP; Information on the WORMPEP database can be found at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RP3-395M20 is from the library RPCI-3 constructed by the group of Pieter de Jong. For further details see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human DNA sequence from clone RP3-395M20 on chromosome 1p36.11-36.33, complete sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VECTOR: PCYPACE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (16-NOV-2001) Wellcome Trust Sanger Institute, Hinxton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AL139246
AL139246.20 GI:16973797
                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cambridgeshire, CB10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Moore, M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                   29047 a 47325 c 48771 g 29593 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 154736)
                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               //www.chori.org/bacpac/home.htm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="Tandem repeat. Forced join. Gap size estimated to be approximately 800bps by restriction digest data." 125344 .125387
                                                                                                                                                                                                                                                                                                                                                                                 digest.
                                                                                                                                                                                                                                                                                                                                                                                                           /note="Sequence from overlapping clone RP4-755G5 (AL589746). Assembly confirmed by restriction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         clone_lib="RPCI-3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /map="p36.11-36.33"
/clone="RP3-395M20"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        organism="Homo sapiens"/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                chromosome="1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . .154736
                                                                                                                                                                                      33.2%; Score 1540.4; DB 9 99.9%; Pred. No. 3.2e-236; tive 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1SA, UK. E-mail enquiries:
                                                                                                                                                                                                                                                      DB 9;
                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                      Length 154736;
                                                                                                                                                                                      1; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The true
```

GCCATGTAC 4281	CTGGGCGGCTGGCGACCTGCATGGCCCCTGATGCCTTTCCTGGGACTGGGGGCCATGTA	4222	Q
PACTCACCTC 4221	CCGGGACTGTGGCCTGACATGCTGGGCCCCTCCGGCTGGGCGCTTCCCCAA	4162 56380	Qy Db
AGGGTCTGGGG 4161 AGGGTCTGGGG 56379	GAGCTGGTTTGAGGCCCGACAGGCTGGGAAGAACCAGCTGCTCTTGCTC	4102 56320	Qy Db
GACTTGGGTG 4101 GACTTGGGTG 56319	TIGCCTGIGGCCCATAGCCCCAGCCCTCCTGICTGAGCTTGAGGCCCTGGGA	4042 56260	Db Qy
CTCCCTTGGC 4041	TGCTCGTGGCTCTGTATCCGTGGCACTGTCTCCGTGGCACTCTC	3982 56200	D Q
rcaccrcara 3981 rcaccrcara 56199	2 CTGGCATGGCTGGGCCTGGGTCACCTGCTGCTTCTGCGTGGACGGTGTCGC	3922 56140	Db Qy
CCGCACGCCC 3921	2 AATCCCCCATGTTCTCCGCCGGTAAGCCCCTCTTGCCCTGCGTGGTCCTCC	386) 5608	D 04
ATCAGGAGTA 3861 ATCAGGAGTA 56079	2 GGGCCCTGCAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGATC 	380 5602	4g VQ
AGGCAACCGG 3801 AGGCAACCGG 56019	2 ACAGCCCGGGCATCCCCGAAAGGTCCCCCGCTGGCCTGAGGGTGCCTGCAGGCAA	374 5596	p &
CAGCAGCCCAG 3741 AGCAGCCCAG 55959	2 GGGCCTGGAGGCAGGGTCCAGGCGGTAGCGGCTCCATGTCCTCGGACTCCA 	368 5590	9d VQ
CCCAAGGGTCCTG 3681 CCCAAGGGTCCTG 55899	2 GCTGTGGCCTGGACCCTCACGCTATCCCGGGGAGAAGCAGAGAGAG	362 5584	B &
CIGGGGGCCCCCT 3621	2 GCAGGCAGGCAGCCATTCGCCAGCAGCCCGGGCCCGGGCTGACTCACTGC	356 5578	ρ Q
GGGCCTGCAA 3561 GGGCCTGCAA 55779	2 GCGCCGGCGTGAACACCGGGGGCCTGCAGAGGGAGCGGCCACCCAGCCCGGGGCCTGC.	350 5572	4a VQ
GTGGGATCCT 3501 GTGGGATCCT 55719	2 TGGACGGCCCCGGGCCTGCTGGGATGGCCGCCACATGCATG	344 5566	25 25
CCGCGTGTCC 3441 CCGCGTGTCC 55659	2 GTAAGGCGCCAGCTGCGGTGGCAGAGAAGAGCCCTGTGCGAGTGCGGCCCC	338 5560	8 & 8
AGCCCCCGAG 3381 AGCCCCCGAG 55599	2 GGCCCGGACCTGCTCCCGGAAGCCCCAGCCCAGGAGGGGCCCGGCAGCGGCAGCGGCAGCGCAGCGGACCTGCTCCGGAAGCCCCAGCCCAGGAGGGGCCCGGCAGCGGAAGCGCCAGCAG	332 5554	7g 4g
GTGCCCCCCG 3321 GTGCCCCCCG 55539	2 TGGTCCTGGGTACACGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGT	326 5548	4d A3
TTCCCGGAGC 3261	2 GGCGCACGGCCAGCGCCCCGACCAAGAGCCAGAAGCCGGGCCGGCCAGAGGGCTTC	320 5542	PG 40
		5536	Db

<u>ه</u>

```
TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 7
AK096620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Snoo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              56440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4342
                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CATCCCATTCCCACCTCCCTCTAGGGCAGGCTCCAGGGGTCCCTACTGGGAAGTCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGGCAGGTAGTGCAGCTGCTGGGGCGTCTCCTGCGCCCTGGGACGCCTGGAGCCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCCGTAGTTAGGAACTGAGAGCGGCGAGTGACAGGTAACGGGGCCCAGCCCCG 4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGCTGCGTGGAGTAGATTCCCTGGGCCCCAGGGCTTCGCTGCTTTGGGCTGAAGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGTGCTGCGTGGAGTAGATTCCCTGGGCCCCAGGGCTTCGCTGCTTTTGGGCTGAAGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGGCAGGTAGTGCAGCTGCTGGGCCGTCTCCTGCGCCCCTGGGACGCCTGGAGCCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGGGCGGCTGGCGACCTGCATGGCCCTGATGCCTTTCCTGGGACTGGGGGCCACGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (04-JUL-2002) Takao Isogai, FLJ Project(HRI Team); 2-6-7 Kazusa-Kamatari, Kisarazu, Chiba 292-0812, Japan (E-mail:genomics@hri.co.jp, Tel:81-38-52-3975, Fax:81-438-52-3986) NEDO human cDNA sequencing project supported by Ministry of Economy, Trade and Industry of Japan; cDNA full insert sequencing: Research Association for Biotechnology (RAB); cDNA library construction: Helix Research Institute (HRI) (supported by Japan Key Technology Center etc.); 5'- & 3'-end one pass sequencing: RAB, HRI, and Biotechnology Center, National Institute of Technology and Evaluation; clone selection for full insert sequencing: HRI and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nishi,T., Ota,T., Nakagawa,S., Senoh,A., Mizuguchi,H., Inagaki,H. Sugiyama,T., Irie,R., Otsuki,T., Sato,H., Wakamatsu,A., Ishii,S., Yamamoto,J., Isono,Y., Kawai-Hio,Y., Saito,K., Nishikawa,T., Ximura,K., Yamashita,H., Matsuo,K., Nakamura,Y., Sekine,M., Kimura,K., Kanehori,K., Kikuchi,H., Kanda,K., Wagatsuma,M., Murakawa,K., Kanehori,K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Takahashi-Fujii,A., Oshima,A., Sugiyama,A., Kawakami,B., Suzuki,Y., Sugano,S., Nagahari,K., Masuho,Y., Nagai,K. and Isogai,T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AK096620.1 GI:21756155 oligo capping; fis (full insert sequence). Homo sapiens fetal brain cDNA to mRNA, clone_lib:OCBBF2 clone:OCBBF2012936.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AK096620 3283 bp mRNA linear PRI 15-JI
Homo sapiens cDNA FLJ39301 fis, clone OCBBF2012936, weakly si
to 1-PHOSPHATIDYLINOSITOL-4,5-BISPHOSPHATE PHOSPHODIESTERASE
                                                                                                                                                                                                                                                                                                                                                                                                                                 Isogai,T. and Yamamoto,J. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NEDO human cDNA sequencing project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 3283)
                                                                                                                                                                                    annotation: HRI and RAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3.1.4.11).
  /clone
/dev_st
                       /clone="OCBBF2012936"
/tissue_type="brain"
/clone_lib="OCBBF2"
                                                                                                                                                          Location/Qualifiers
                                                                                                             organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                          xref="taxon:9606"
_stage="fetal"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Senoh, A., Mizuguchi, H., Inagaki, H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            56852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-JUL-2002
kly similar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              56619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                56499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            56739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        56559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DELTA
```

```
Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
                                                                                    밁
                                                                                                             S
                                                                                                                                             맒
                                                                                                                                                                     Ś
                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                          밁
ő
                              B
                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Sim
Matches 1774;
 1506
                              1320
                                                                                     1260
                                                                                                                                                                        1326
                                                                                                                                                                                                    1140
                                                                                                                                                                                                                                 1266
                                                                                                                                                                                                                                                            1080
                                                                                                                                                                                                                                                                                        1206
                                                                                                                                                                                                                                                                                                                      1020
                                                                                                                                                                                                                                                                                                                                                 1146
                                                                                                                                                                                                                                                                                                                                                                                                          1086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1026
                                                          1446
                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                              960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           726
                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGGAGCGGTGCATGGGTGCCATGCAAGAGGGGGATGCAGATGGTGAAGCTGCGTGGCGGC 605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCAAAGGGCTTGTCCGCCTCTTTTACCTGGATGAGCACCGGACACGCCTCCGATGGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTTGAAAGATGCATGAGTGTGATGCAGTCCGGGACACAGATGATCAAGCTGAAACGTGGA 479
                                                                                                                                                                                                                                                                                                                                                                                             CACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCCTGGCTCGCCAGCGACCACCAGGGGACCAGTGGCTGAAGCAGACGTTTTGACGAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCTCTAGGAAGAGTGAGAAGGCAAAAATACTTATTGATTCCATTTACAAAGTGACTGAG
                                                                                                                                                                                                                                                            GAACTGGCTCAGTTTTTGAAGGTGGAGCAAAAGATGAATAATGTGACAACGGACTATTGT
                                                                                                                                                                                                                                                                                    AGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGC
                                                                                                                                                                                                                                                                                                                                                                              AATCAGGGAACTTTGACATTTGAAGAGTTCTGTGTTTTTTACAAAATGATGTCTTTGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                       AATGTTAATCTGCCCCGAAGAAAAGTCAGACAAATGTTTCAGGAAGCCGACACAGATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATAAGAATGGTGACGGCTTGCTGAATATTGAAGAGATACATCAGCTGATGCATAAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCCCTTGCCAAAAGGCAGAGGACCCATGACCAATGGGTGAAGCAGACCTTTGAGGAAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ттсавсатстассасвесавссасвевансветсветвнастветстскассавсавсная
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCCGGCAGTCTGAAATATTCCACAGACAAGCTGAGGGGAACTTCGACCCCAGCTGCTGC
   GTCCTGCAGGCTGGCTGCGTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAG
                               AACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGG
                                                                                    CATGAAGTGTACCAAGACATGGATCAGCCCCTCTGCAACTACTACATTGCTTCCTCTCAC
                                                                                                               CACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCAC
                                                                                                                                             ATAGAAGGCTTCACGAACTTCATGCGTAGTCCTGCCTGTGACATATTTAACCCATTGCAC
                                                                                                                                                                  ATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCAC
                                                                                                                                                                                                   CTTGACATCATAAAGAAGTTTGAAGTTTCAGAAGAAAATAAGGTGAAAAATGTTCTTGGC
                                                                                                                                                                                                                               CAGGAÇATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGC
                                                                                                                                                                                                                                                                                                                     CGAGACCTTTATTTGTTACTTTGAGCTACAGTGACAAGAAGATCACCTAACTGTGGAA
                                                                                                                                                                                                                                                                                                                                              CGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCC 1205
                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCACCATCTACCATGGCAACCACATGGAGTCCCTGGACCTCATCACCTCCAACCCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ρı
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="cloning vector:
720 c 777 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 1127; DB 9;
Pred. No. 5.4e-170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pME18SFL3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 930;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 3283;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
      1565
                                                             1505
                                                                                       1319
                                                                                                                   1445
                                                                                                                                                1259
                                                                                                                                                                           1385
                                                                                                                                                                                                      1199
                                                                                                                                                                                                                                                                                           1265
                                                                                                                                                                                                                                                                                                                        1079
                                                                                                                                                                                                                                                                                                                                                                               1019
                                                                                                                                                                                                                                                                                                                                                                                                            1145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              665
                                 1379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    725
```

```
Ś
                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                            В
                                                                                á
                                                                                                                          밁
                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
    2573
                                              2390
                                                                                                                                                                                                                                                  2393
                                                                                                                                                                                                                                                                                                                                                                       2153
                                                                                                                                                                                                                                                                                                                                                                                                                                                   2093
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1740
                                                                                                                          2330
                                                                                                                                                                  2453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1860
                                                                                                                                                                                                          2270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1626
                                                                                                                                                                                                                                                                                                                                                                                              GAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACCAAGTCCGTGGC 2332
GCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGG
                                                                                                                                                                GCTCTCCCGCATCTACCCCTCCTCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCC
                                                                                                                                                                                                      AAGAGCACATCAGGTTGTTCAGCAAAAATCAGAGCAGTTCATGATTTATAATCAAAAGCA
                                                                                                                                                                                                                                            CAAGGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCA
                                                                                                                                                                                                                                                                                    CGCTCAGGACATTG---TGGATGACGGAACCACAGGAAATGTGTTATCATTCAGTGAAAC
                                                                                                                                                                                                                                                                                                                  CACCCACGACATAGAGATGGAGGCGGCCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGAC
                                                                                                                                                                                                                                                                                                                                                                  GAAAACCATGAAGCTCTGCCGAGAACTCTCTGATTTGGTTGTTACACAAACTCCGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                AGACACAGCAGCAGTACTGGCAAGGAGGGTGGCCAGCTGTACAGATTGGGTCGCCGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGAGGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGGGGGGACCCGGCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTCCAGGCGCAAGAAGAAGGCCAGCAAGCTGAAGAAGGCGGCCAG-----CGTGGA 2212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTACTGGAACGCAGGCTGCCAGCTAGTGGCACTGAATTATCAATCTGAAGGACGAATGAT
                                                                                  TGGAĀAACATĀĀGĀĀĀĀCTACAĀAATCAČĢĢTCTĀĀATCTTAČĀĢTACTGATGATGĀGGĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGTCCAGATGTAAAGGAAAGTGGAAAGAAATCACATGGACGATCCCTCATGACCAACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGT-CTGGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGCGGGCACT-----ACTGAAGGCCACGCATGAAGGCTTAAATGCACACCTGAAGCA 1972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGGAGTCACTGTTAGAAGAATCTCAAATTCGAGATAAAGAAGATCCTGATAGTTTCACA 1919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCCAACAACTTCTCC 2042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGCTCCATTATAGTAATGGGACCACTGAGCATCAGGTGGAATCTTTCATAAGGAAAAAA 1859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---CTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAA 1982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGGAAGGGGAAGTTTCCGATGAGGACAGTGCAGATGAAATTGAAGACGAGTGCAAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTC 1925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGAAAGGCAAAATTCTAGTGAAGGGTAAGAAGTTGCCTTATCACCTTGGGGGATGATGCA 1739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTCAAGGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ANACTEGACCIGICATCIGITGATACAGGGGAGTGCAAGCAGCITCCAAGCCCTCAAAGT 1679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACACTCCCCCTCTCCACAGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACTGCAGTATCCAGCAGCAAAGGAAGATTGCTCAGTACCTGAAAGGAATATTCGGAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCATCAACAAGCATGCCTTTGTGAAGAATGAGTTTCCTGTTATATTGTCTATCGAGAAT 1559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCATCAACAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAAC 1685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCAGTAGTACATCATGGTTACACTCTCACTTCAAAAATTCTCTTCAGAGATGTTGTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAA 1625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2161
                                                                                                                                                                2512
                                                                                                                                                                                                      2329
                                                                                                                                                                                                                                              2452
                                                                                                                                                                                                                                                                                                                                                                  2212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1805
```

```
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 8
BC019679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Locus
                                                                                                                                                     REMARK
                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3044 GAAGCGATCCATTGGAGATAGAATTCCGCGACGCCAGCTAGCGCCCAGCCAAAGGCAG 3103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3053 GCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAAAGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2450 GCAGTTAAACCGAGCCAAATTCAAGGCAAATGGCAATTGTGGCTATGTCCTCAAACCCCA 2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAAAAAGAGCAAAATGGGCTTCCAAGAAATGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAGCCGGGCCGCAGGGGCTTCCCGGAGCTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGGCCCTCCGTTAGCCAGCGGATCCTGCGGCGCCACGGCCAGCGCCCCGACCAAGAGCCA 3232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTTCAATAAGAATCCTAGGCACAGTTCTTCAGAAAAACAATTCCCATTATGTAC-----G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACACATAACCATCAATGAAATCTATGGAAAGAACAGACAACTCCAGGGTCTGAAGGGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGGATGGAAGAGGCCTCCATCTTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGGGATCACGATCCCATTGGACGAGACTTTGTTGGACAAAGAACTGTGACCTTCAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGAGGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTGGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTAGTGCCTGGCTACCGGCATGTCTATTTGGAAGGACTGACAGAAGCATCCATATTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cregeaccacearcearcegecereacrrearregeceaeaegacecregecerreageae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGAAGAAACACTGACATTTACAGTACACATGCCAGAAATAGCTTTGGTTCGGTTCCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGTAGATTGTTAAAGATCAAACCCCGTGTGGTAGATGACAATGGATTTAACCCTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTGGGGGACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAAGCAGCTCATCCTGAAAGTTATCAGTGGACAGCAACTCCCCAAACCTCCAGACTCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACTCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTTTGGAGATCGAGGCGAGATCATTGACCCTTTTGTTGAAGTTGAAATTATTGGATTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCAAATGTGCAAAGGTACTTTCAACCCTTTCTCTGGTGACCCTCTTCCTGCCAACCCCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGCATGTGCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2480 bp
Homo sapiens, clone IMAGE:4932488,
EC019679
                cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Baylor College of Medicine Human Genom
                                                                                                                                  NIH-MGC Project URL: http://mgc.nci.nih.gov
Contact: MGC help desk
                                                                                                                                                                                          Submitted (19-DEC-2001) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                      Email: cgapbs-r@mail.nih.gov
Tissue Procurement: David N. Louis,
Sequencing Center
                                                                                                                                                                                                                                                                       Direct Submission
                                                                                                                                                                                                                                                                                            Strausberg,R
                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 BC019679.1
                                                                                                                                                                                                                                                                                                          (bases 1 to 2480)
                                                                                                                                                                                                                                                                                                                                                                                                                                                 GI:18044627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mRNA
                                                                                      M. D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear |
partial cds
                       Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2689
```

```
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 861;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                2881
                                                                                                                                                                                                                                                         2761
                                                                                                                                                                                                                                                                                                                                                                         2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2521 ACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGGCGGATGCTGCAGCTGA 2580
                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                      301
                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
CCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCCTTCCTCGTCTGGGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCAGGGGGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTGCATGT 2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCGGATGCTGCAGCTGA
                                                                                                                      GCAGCAGGGAGCAGACCCGCGTGGTGGACGACCACCGGGTTCAACCCCACCTGGGAGGAGA 2880
                                                                                                                                                                                                                                                                                                                                                                TGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACTCCATGCTGGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGC
                                                                                      GCAGCAGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCCACCTGGGAGGAGA
                                                                                                                                                                                                      ACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACT
                                                                                                                                                                                                                                                         ACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACT
                                                                                                                                                                                                                                                                                                                 TGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACTCCATGCTGGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: amg@bcm.tmc.edu
Gunaratne, P.H., Garcia, A.M., Lu,
Yoon, V.S., Kowis, C.R., Lawrence,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
Series: IRAK Plate: 29 Row: n Column: 13
This clone was selected for full length sequencing because it
passed the following selection criteria: matched mRNA gi: 7662133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Center code: BCM-HGSC
Web site: http://www.hgsc.bcm.tmc.edu/cdna/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Richards, S., Gibbs, R.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVVPPGPGPAPEAPA
QEGPGGGSPRDTRPLSTQRPLPPLCSLETIAEBEAPGFGPEPPAAVPTSSSQGRPPYP
TGPGANVASPLEDTEEPRDSRPRPCNGEGAGGAYERAPGSQTDGRSQPRTLGHLPVIR
RVKSEGQVPTEPLGGMRPLAAPFPAPAVYSDATGSDPLWQRLEPCGHRDSVSSSSSMS
SSDTVIDLSLPSLGLGRSRENLAGAHMGRLPPRPHSASAARPDLPPVTKSKSNPNLRA
TGQRPPIPDELQPRSLAPRMAGLPFRPPWGCLSLVGVQDCPVAAKSKSLGDLTADDFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /product="Unknown (protein for IMAGE:4932488)"
/protein_id="AAH19679.1"
/protein_id="AAH19679.1"
/db_xref="G1:18044628"
/tamslation="AGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVF
/translation="AGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVF
NPNSEDPLPGQLKKQLYLRIISGQQLEKERDSMLGDRGEIIDEFVEVEIIGLEFVDCSR
EQTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMP
EGYRHVYLEGMEEASIFYHVANGDISGKVKQALGLKGLFLRGFKCGSLDSHAAGREPAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PSFEGGSRRLSHSLGLPGGTRRVSGPGVRRDTLTEQLRWLTVFQQAGDISPTSLGSAGGGGFGVRRSSSRSHSRVRAIASRARQAQERQQRLQGLGRQGPPEEERGTPEGACSVGHEGSVDAPAPSKGALGPASAAAENLVLLRL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1p/19q Toss"
/clone_lib="NCI_CGAP_Brn67"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 note="Vector: pCMV-SPORT6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="IMAGE:4932488"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 codon_start=3/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tissue_type="Brain, anaplastic"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            865 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18.6%; Score 861; DB 9; Lo
100.0%; Pred. No. 1.4e-127;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         798 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               374 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 X., Hulyk, S.W., Hale, S.M., S., Martin, R.G., Muzny, D.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 2480;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          oligodendroglioma with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                               2820
                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2700
                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                         300
                                      2940
                                                                                                                                                                                                                                                                                                                                                                                  2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

8 멍 Ś 밁 á 밁 Ś 밁 Ś

밁 Ś 밁

Ś

```
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 9
AX411647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3181
                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361 CCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGTCTGGGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGGCTACAGACACGTGTACCTAGAAGGGGATGGAAGAGGCCTCCATCTTCGTGCATGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGGCAGCGGCAGCCCCCGAG 3381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGACGATGTGGTGCCCCCGGGCCCCGGACCTGCTCCGGAAGCCCCAGCCCAGCAGGAGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCGCAGGGGCTTCCCCGGAGCTGGTCCTGGGTACACGGGGACACACGGCTCCAAGGGGGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCCGGCCCGGCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCATGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGC 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGGCAGCGGCAGCCCCGAG 861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGACGATGTGGTGCCCCCCGGGCCCCGGACCTGCTCCGGAAGCCCCAGCCCAGGAGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCGCAGGGCTTCCCGGAGCTGGTCCTGGGTACACGGGACACAGGCTCCAAGGGGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGTTAGCCAGCGGATCCTGCGGCGACGACGACCCAAGAGCCAGAAGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGTTAGCCAGCGGATCCTGCGGCGCACGGCCAGCGGCCCGACCAAGAGCCAGAAGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAAAAGGCCTCTTCCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                         c-like enzyme
Patent: WO 0226996-A 1 04-APR-2002;
Bayer Aktiengesellschaft (DE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; E
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1 from Patent W00226996.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Regulation of human phosphatidylinositol-specific phospholipase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Zhu,Z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AX411647.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AX411647
/translation="DifflieysDkkDHLTVEELAQFLKVEQKMNNVTTDYCLDIIK
/translation="DifflieysDkkDHLTVEELAQFLKVEQKMNNVTTDYCLDIIK
KFEVSEENKKURNVLGIEGFTNFMRSPACDIFNPLHEVYQDMDQPLCNYYIASSHMTY
LTGDQLLSQSKVDMYARVLQBGCRCVEVDCWDGPDGEPVVHHGYTLTSKILFRDVVET
INKHAFVKNEEFPYILGIEHHCSIQQDKIAQYLKGIFGDKLDLSSYDTGECKQLESFQ
SLKGKILVKKKLPYHLGDDAEEGEVSDEDSADEIEDECKFKLHYSNGTTEHQVESFI
RKKLESILKESQIRDKEDDDGSTTVRALLKATHEGLNAHLKQSPDVKESGKKSHGRSLM
TNFGKHKKTTYKGRSKYSTDDEBDTOQSTGKEGGQLYKHGRRRKTMKLGEELSDLVVY
TNSVAAQDIVDDGTTGNVLSFSETRAHQVVQQKSEQFMIYNQKQLTRIYPSAYRIDSS
NFNPLLFYMNAGCQLVALNYQSEGRMMQLNRAKFYANGNGCVYLKPQMCKGTFNPFSG
DPLPANPKKQLILKVISGQQLFKPPDSMFGDRGEIIDFVEGYTLKPQMCKGTFNPFSG
DPLPANPKKQLILKTISGVGLEXPPSMFGDRGEIIDFVGVATVTFSSLVPGYRHV
VDDNGRNPVMEETLTFTVHMPEIALVRFLVWDHDPIGRDFFVGQRTVTFSSLVPGYRHV
YLEGLTEASIFVHITINEIYGKWSPLILLNPSYTILHFLGATKNRQLQGLKGLFNKNPR
                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                               /proteīn_id="CAD35256.1"
/db_xref="GI:21444191"
                                                                                                                                                                                                                                                                                                       /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                          note="unnamed protein product"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GI:21444190
                                                                                                                                                                                                                                                                                                                                                   .2364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PAT 14-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE CO
                                  Ş
                                                                            밁
                                                                                                              S
                                                                                                                                                                                      á
                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
    밁
                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best|Local Simi
Matches 1255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1149 GACCTCTACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGC 1208
                                                                                                                                                                                                                                                                         6981
                                                                                                                                                                                                                                                                                                                                                 6081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1329
    901
                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                    GATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGGAGGACCCCAACAACTTCTCCCGTC 2045
                                                                                                                                                                                                                                                                                                                               AAGGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAG 1868
                                                                                                                                                                                                                                                                                                                                                                                                               CTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACCACCTCCCCTCTCCACAGATGCTC 1808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACC 1628
    CGGGCACT---
                                    TCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAG
                                                                                                                                                                                                                                  GAAGGGGAAGTTTCCGATGAGGACAGTGCAGATGAAAATTGAAGACGAGTGCAAATTCAAG
                                                                                                                                                                                                                                                                     GAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTC--- 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCAACAAGCATGCCTTTGTGAAGAATGAGTTTCCTGTTATATTGTCTATCGAGAATCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCAC 1688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTAGTACATCATGGTTACACTCTCACTTCAAAAATTCTCTTCAGAGATGTTGTGGAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTC 1508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAAGTGTACCAAGACATGGATCAGCCCCTCTGCAACTACTACATTGCTTCCTCTCACAAT 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAAC 1448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAAGGCTTCACGAACTTCATGCGTAGTCCTGCCTGTGACATATTTAACCCATTGCACCAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCAC 1388
                                                                          GAGTCACTGTTAAAAAGAATCTCAAATTCGAGATAAAGAAGATCCTGATAGTTTCACAGTG
                                                                                                                                                    CTCCATTATAGTAATGGGACCACTGAGCATCAGGTGGAATCTTTCATAAGGAAAAAACTG
                                                                                                                                                                                      СТСААТGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTG 1985
                                                                                                                                                                                                                                                                                                           AAAGGCAAAATTCTAGTGAAGGGTAAGAAGTTGCCTTATCACCTTGGGGATGATGCAGAG
                                                                                                                                                                                                                                                                                                                                                                                       CTGGACCTGTCATCTGTTGATACAGGGGAGTGCAAGCAGCTTCCAAGCCCTCAAAGTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCAGTATCCAGCAGCAAAGGAAGATTGCTCAGTACCTGAAAGGAATATTCGGAGACAAA 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGCAAGAGGGCTGTCGCTGTGGGAAGTTGACTGTTGGGATGGCCCAGATGGAGAGCCA 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGCAGGCTGCCGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCC 1568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACATCATAAAGAAGTTTGAAGTTTCAGAAGAAAATAAGGTGAAAAATGTTCTTGGCATA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATT 1328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGGCTCAGTTTTTGAAGGTGGAGCAAAAGATGAATAATGTGACAACGGACTATTGTCTT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HSSSENNSHYVRKRSIGDRILRRTASAÞAKGRKKSKMGFQEMVEIKDSVSEATRDQDG
VLRRTTRSLQARÞVSMÞVDRNLLGALSLÞVSETAKDIEGKENSLVQI"
a 1214 c 1203 g 1475 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16.8%;
-ACTGAAGGCCACGCATGAAGGCTTAAATGCACACCTGAAGCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches 670;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 780; DB 6; Pred. No. 1e-114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 5551;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ū
```

```
Ş
                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                        맑
밁
                                        Ś
                                                                                        밁
                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                 1791
                                                                                                                                                                                                                                                                                                                                                                   1671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1371
                                        3056 TGTGGCTGTCAGTGACATCAGCGGTAAG 3083
                                                                                      1851 AGTGCCTGGCTACCGGCATGTCTATTTGGAAGGACTGACAGAAGCATCCATATTTGTACA
                                                                                                                                 2996 GATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCA 3055
                                                                                                                                                                                                                 2936 GGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCAT
                                                                                                                                                                                                                                                                          2876 GGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1431
                                                                                                                                                                                                                                                                                                                                                                                                            2816 GGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1134 AACCATGAAGCTCTGCCGAGAACTCTCTGATTTGGTTGTACACAAACTCCGTGGCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2106 T-CTGGGGAGGATGCCGGGGCCAGCAGCACGCAATGGCCGCCTCGTCGTGGGAAGCTTCTC 2164
CATAACCATCAATGAAATCTATGGAAAG
                                                                                                                                                                               GGATCACGATCCCATTGGACGAGACTTTGTTGGACAAAGAACTGTGACCTTCAGCAGCTT
                                                                                                                                                                                                                                                                                                                                                                   AGATTGTTGTAAAGATCAAACCCCGTGTGGTAGATGACAATGGATTTAACCCCTGTGTGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGGGACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGT 2815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACTCCATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CATGTGCCAGGGCGTGTTCAACCCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTTAAACCGAGCCAAATTCAAGGCAAATGGCAATTGTGGCTATGTCCTCAAACCCCAGCA 1490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACCTCAAGCCTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTTCCTTCAGCGAGACCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAGCTCATCCTGAAAGTTATCAGTGGACAGCAACTCCCCAAACCTCCAGACTCCATGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AATGTGCAAAGGTACTTTCAACCCTTTCTCTGGTGACCCCTCTTCCTGCCAACCCCCAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGGAACGCAGGCTGCCAGCTAGTGGCACTGAATTATCAATCTGAAGGACGAATGATGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACGAGGATTTACCCCTCTGCCTACCGCATTGATTCCAGTAACTTCAACCCTCTCCCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCACATCAGGTTGTTCAGCAAAAATCAGAGCAGTTCATGATTTATAATCAAAAGCAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACCAAGTCCGTGGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACACAGCAGAGTACTGGCAAGGAGGGTGGCCAGCTGTACAGATTGGGTCGCCGAAGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAAACATAAGAAAACTACAAAAATCACGGTCTAAATCTTACAGTACTGATGATGAGGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCGGATGCTGCA 2575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCAGGACATTG---TGGATGACGGAACCACAGGAAATGTGTTATCATTCAGTGAAACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGGCGCAAGAAGAAGGGCAGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAGGATG- 2223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCAGATGTAAAGGAAAGTGGAAAGAAATCACATGGACGATCCCTCATGACCAACTTTGG
                                                                                      1910
                                                                                                                                                                                                                                                                                                                                                                                                                 2875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1250
```

AB028992 LOCUS

AB028992

DEFINITION

Homo sapiens mRNA for KIAA1069 protein, partial cds

5551 bp

mRNA

04-AUG-1999

RESULT 10

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                    Ś
                                                                                                                                                                  밁
                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                         멍
                                                                                                                                                                                                                                                                                                                       Ś
  Ś
                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                            Matches 1255;
                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDS
                                                                                                               1269
                                                                                                                                                                                                                         1209
1329 GATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCAC 1388
                                                                                                                                                                                                                                                                                                                                     1149
                                                            121
                                                                                                                                                                        61
                                                                                                                                                                                                                                                                               ...
                                                                                                                                                                                                                                                                                                                                   GACCTCTACCTGCTCATGCTGACCTACAGCAACCACCAGGACCACCTGGATGCCGCCAGC 1208
                                                                                                                                                                                                                         CTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAG 1268
                                                                                                                                                                                                                                                                               GACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGGCTGCTGGGCATT 1328
                                                            GACATCATAAAGAAGTTTGAAGTTTCAGAAGAAAATAAGGTGAAAAATGTTCTTGGCATA 180
                                                                                                                                                                        ĊŢĠĠĊŢĊĄĠŢŢŢŢĠŖĄĠĠŢĠĠĄĠĊĄĄĄĠŖŢĠĄŢŖĄŢĠĄĊĄĄĊĠĠŔĊŢĄŢŢĠŢĊŢŢ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kikuno,R., Nagase,T., Ishikawa,K., Hirosawa,M., Miyajima,N., Tanaka,A., Kotani,H., Nomura,N. and Ohara,O. Prediction of the coding sequences of unidentified human genes. XIV. The complete sequences of 100 new cDNA clones from brain which code for large proteins in vitro DNA Res. 6 (3), 197-205 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens brain cDNA to mRNA, clone_lib:pBluescriptII SK plus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               clone:hj05486.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AB028992.1 GI:5689474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AB028992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (17-JUN-1999) Osamu Ohara, Kazusa DNA Research Institute, Laboratory of DNA Technology; Yana 1532-3, Kisarazu, Chiba
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ohara, O., Nagase, T. and Kikuno, R. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fax:+81-438-52-3914)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Laboratory of DNA Technology; Yana 1532-3, Kisarazu, Chiba
292-0812, Japan (E-mail:cdnainfo@kazusa.or.jp, Tel:+81-438-52-3913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (bases 1 to 5551)
                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /protein_id="BAA83021.1"
/db_xref="G1:5689475"
/fdb_xref="G1:5689475"
/fdb_xref="G1:5689475"
/fdb_xref="G1:5689475"
/fdb_xref="G1:5689475"
/fanslation="DLYLLLLSYSDKKDHLTVBELAQFLKVEQKMNNVTTDYCLDIIK
/franslation="DLYLLLLSYSDKKDHLTVBELAQFLKVEQKMDQPLCNYYIASSHNTY
KEEVSEENKYKNVLGIEGETNFWRSPACDIFNPLHEVYQDMDQPLCNYYILTSKILFRDVVET
LTGDDLLSQSKUDMYARVLQEGCRCVBVDCWDGPDGBEVVHHGYTLTSKILFRDVVET
LTGDDLLSQSKKUDMYARVLQEGCRCVBVDCWDGPDGBEVVHHGYSVDTTEHQVESFI
NKHAFVKNEFFVILSIENHCSIQQQKKIAQYLKGIFGKLDLSSVDTGECKQLBF9Q
SLKGKILVKGKKLPYHLGDDAEEGGVSDEDSADEIEDECKFKLHYSNGTTEHQVESFI
RKKLESILKESQIRDKEDPDSFTVRALLKATHEGLNAHLKQSFDVKESGKKSHGRSLM
RKKLESILKESQIRDKEDPDSFTVRALLKATHEGLNAHLKQSFDVKESGKKSHGRSLM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TNFGKHKKTTKSRSKSYSTDDBEDTQQSTGKEGGQLYRLIGRRRKIMKLCRELSDLVVY
TNSVAAQDIVDDGTTGNVLSFSETRAHQVVQQKSEQFMIYNQKQLTRIYPSAKIDSS
NFNPLPYWNAGCQLVALNYQSBGRMMQLNRAKFKANGKGYVLKAKQWCKGTFNPFSG
DPLPANPKKQLILKVISGQQLFKPPDSMFGDRGEIIDFFVGVEVEIIGLFVDCCKQQTRV
VDDNGPNPWREETLTFFYMMPEIALVRFLVWDHDFIGRDFVGGRTVTFSSLVFGYRHV
YLEGLTEASIFVHITINEIYGKWSPLILNFSYTILHFLGATKNRQLQGLKGLFNKNPR
HSSSENNSHYVRKRSIDRILLRTASAPAKGRKKSKMGFQEMMEIKDSVSEATRDQDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VLRRTTRSIQARPVSMPVDRNLLGALSLPVSETAKDIEGKENSLVQI"
1214 c 1203 g 1475 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .5551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue_type="brain"
/clone_lib="pBluescriptII SK plus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /chromosome="3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product="KIAA1069 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /gene="KIAA1069"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'clone="hj05486"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          codon_start=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene="KIAA1069"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 2364
                                                                                                                                                                                                                                                                                                                                                                                                                      16.8%;
                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                      Score 780; DB 9;
Pred. No. 1e-114;
                                                                                                                                                                                                                                                                                                                                                                                            Mismatches 670;
                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 9; Length 5551;
                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                               23;
                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                  5
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                            밁
                                                                                                                                                            Ş
                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                              밁
                 δ
                                                      밁
                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1629
                                                                                                                                                                                                                                                                                                                                                                                  2106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                    2396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 GAAGTGTACCAAGACATGGATCAGCCCCTCTGCAACTACTACTACATTGCTTCCTCTCACAAT 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                          2046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                  1074 CACACAGCAGTACTGGCAAGGAGGGTGGCCAGCTGTACAGATTGGGTCGCCGAAGGAA 1133
                                                                                                                                                                                                                                        2224
                                                                                                                                                                                                                                                                          1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAAC 1448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAAGGCTTCACGAACTTCATGCGTAGTCCTGCCTGTGACATATTTAACCCCATTGCACCAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ТССАСТСТСАТССАССАСАСАВАЛАЛАТССССАСТАТСТСАСТСАСАТССТТССССАСАС 1748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTAGTACATCATGGTTACACTCTCACTTCAAAAATTCTCTTCAGAGATGTTGTGGAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGCAGGCTGGCTGCCTGCGTGGACGTGGACTGCTGGGATGGGCCCGACGGGGAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   accraccroeregereaccaecrorrerccaercacegeregacarerarecrregere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCAGTATCCAGCAGCAAAGGAAGATTGCTCAGTACCTGAAAGGAATATTCGGAGACAAA 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCAACAAGCATGCCTTTGTGAAGAATGAGTTTCCTGTTATATTTGTCTATCGAGAATCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCAC 1688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGACGTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTC--- 1925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     СТОВАССТОТСАТСАВТВАВСАВТВААВАТВССАССАСАСТССССТСТССАСАВАТВСТС
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGCAAGAGGGCTGTCGCTGTGTGGAAGTTGACTGTTGGGATGGCCCAGATGGAGAGCCA
GGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCAGCAGCT
                                                                                                                                                            GACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACCAAGTCCGTGGCCAC 2335
                                                                                                                                                                                                                                    T-CTGGGGAGGATGCCGGGGCCAGCAGCAATGGCCGCCTCGTCGTGGGAAGCTTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGTCACTGTTAAAAGAATCTCAAATTCGAGATAAAGAAGATCCTGATAGTTTCACAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGGGCAAGATCCTCGTGAAGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĊŢĠĠĀĊĊŢĠŢĊĀŢĊŢŢŢĠŢŢĠĀŢĀĊĀĠĠĠĀĠŢĠĊĀĀĠĊĀĢĠĊŢŢĊĊĀĀĠĊŢŢŎ
                                                      TCAGGACATTG---TGGATGACGGAACCACGGAAATGTGTTATCATTCAGTGAAACAAG 1250
                                                                                        CCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGACCAA 2395
                                                                                                                            AACCATGAAGCTCTGCCGAGAACTCTCTGATTTTGGTTGTTACACAAACTCCGTGGCCGC
                                                                                                                                                                                                                                                                          AAAACATAAGAAAACTACAAAATCACGGTCTAAATCTTACAGTACTGATGATGAGGAAGA 1073
                                                                                                                                                                                                                                                                                                            CAGGCGCAAGAAGAAGGCAGCCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAAGATG-
                                                                                                                                                                                                                                                                                                                                                TCCAGATGTAAAGGAAAGTGGAAAGAAATCACATGGACGATCCCTCATGACCAACTTTGG 1013
                                                                                                                                                                                                                                                                                                                                                                                                                      CGGGCACT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCCAACACTTCTCCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCCATTATAGTAATGGGACCACTGAGCATCAGGTGGAATCTTTCATAAGGAAAAAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAGGGGAAGTTTCCGATGAGGACAGTGCAGATGAAATTGAAGACGAGTGCAAATTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <u>AAAGGCAAAATTCTAGTGAAGGGTAAGAAGTTGCCTTATCACCTTGGGGATGATGCAGAG</u>
                                                                                                                                                                                                                                                                                                                                                                                                                        ----ACTGAAGGCCACGCATGAAGGCTTAAATGCACACCTGAAGCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1508
                                                                                                                                                                                                                                                                                                                                                                                                                                                               2105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                            2455
                                                                                                                                                                                                                                                                                                                                                                                                                             953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
```

```
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 11
AK022610
                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
          AUTHORS
TITLE
JOURNAL
                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CATAACCATCAATGAAATCTATGGAAAG 1938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGTGGCTGTCAGTGACATCAGCGGTAAG 3083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGCCTGGCTACCGGCATGTCTATTTGGAAGGACTGACAGAAGCATCCATATTTGTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGACCACGATCCCATCGGCCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGAAACACTGACATTTACAGTACACATGCCAGAAATAGCTTTGGTTCGGTTCCTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACGACGGGTTCAACCCCACCTGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGATCACGATCCCATTGGACGAGACTTTGTTGGACAAAGAACTGTGACCTTCAGCAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGATTGTTGTAAAGATCAAACCCGTGTGGTAGATGACAATGGATTTAACCCTGTGTGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGAGATCGAGGCGAGATCATTGACCCTTTTGTTGAAGTTGAAATTATTGGATTGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGGGGACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCAGCTCATCCTGAAAGTTATCAGTGGACAGCAACTCCCCAAACCTCCAGACTCCATGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CATGTGCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAA 2695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGAACGCAGGCTGCCAGCTAGTGGCACTGAATTATCAATCTGAAGGACGAATGATGCA 1430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACTCCATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AATGTGCAAAGGTACTTTCAACCCTTTCTCTGGTGACCCTCTTCCTGCCAACCCCCAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTTAAACCGAGCCAAATTCAAGGCAAATGGCAATTGTGGCTATGTCCTCAAACCCCCAGCA 1490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCGGATGCTGCA 2575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACGAGGATTTACCCCTCTGCCTACCGCATTGATTCCAGTAACTTCAACCCTCTCCCCTA 1370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCACATCAGGTTGTTCAGCAAAAATCAGAGCAGTTCATGATTTATAATCAAAAGCAACT 1310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTG 2635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCCCTT 2515
          Submitted
                            2 (bases 1 to 1977)
Isogai, T. and Otsuki, T.
Direct Submission
                                                                                                                                                   Isogai,T., Ota,T., Hayashi,K., Sugiyama,T., Otsuki,T., Suzuki,Y., Nishikawa,T., Nagai,K., Sugano,S., Ishibashi,T., Fujimori,K., Tanai,H., Kimata,M., Watanabe,M., Hiraoka,S., Ishii,S., Kawai,Y., Saito,K., Yamamoto,J., Wakamatsu,A., Nakamura,Y., Nagahari,K., Masuho,Y. and Kanehori,K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1977 bp mRNA linear PRI 01-AUG-2002 Homo sapiens cDNA FLJ12548 fis, clone NTZRM4000657, weakly similar to 1-PHOSPHATIDYLINOSITOL-4,5-BISPHOSPHATE PHOSPHODIESTERASE DELTA 1 (EC 3.1.4.11).
                                                                                                                                                                                                                                                                                                                                                                                                   oligo capping; fis (full insert sequence). Homo sapiens teratocarcinoma cell_line:NT2
                                                                                                    Unpublished
                                                                                                                                                                                                                                                                                                                                                                                 clone_
                                                                                                                                   NEDO
                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; |
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       AK022610.1 GI:10434099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AK022610
                                                                                                                         human cDNA sequencing
                                                                                                                                                                                                                                                                                                                                                       sapiens
                                                                                                                                                                                                                                                                                                                                                                                 lib:NT2RM4 clone:NT2RM4000657.
(23-AUG-2000) Takao Isogai, Helix Research Institute
                                                                                                                           project
                                                                                                                                                                                                                                                                                                                                                                                                      CDNA
                                                                                                                                                                                                                                                                                                                                                                                                      ť
                                                                                                                                                                                                                                                                                                                           Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1550
```

밁 δ В á 밁 8 밁 Ś

S

S 밁 Ś В Ş 뫄 Ş B δÃ

```
Ş
                                                        В
                                                                                                     Ş
                                                                                                                                                          밁
                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local !
                                                                                                                                                                                                             2032
                                                                                                                                                                                                                                                                                                                   1972
                                                                                                                                                                                                                                                                                                                                                                                                                     1915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDS
                                                          414
                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CTATCGAGAATCACTGCAGTATCCAGCAGCAAAGGAAGATTGCTCAGTACCTGAAAGGAA
GTGGGAAGCTTCTCCAGGCGCAAGAAGAAGGCCAGCCAAGCTGAAGAAGGCGGCCAGCGTG 2210
                                                  CACCTGAAGCAGAGTCCAGATGTAAAGGAAAGTGGAAAATCACATGGACGATCCCTC
                                                                                                                                                     ATAGTTTCACAGTGCGGGCACT-----ACTGAAGGCCACGCATGAAGGCTTAAATGCA
                                                                                                                                                                                                                                                                                                     CTAAGAGGAAACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGGACTGTGAGGACCCCA 2031
                                                                                                  AAGAGGACGTGGAGTCTGG-GGAGGATGCCGGGGCCAGCAGCAGATGGCCGCCTCGTC
                                                                                                                                                                                                        ACAACTTCTCCGTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTG 2091
                                                                                                                                                                                                                                                        TAAGGAAAAACTGGAGTCACTGTTAAAAGAATCTCAAATTCGAGATAAAGAAGATCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATG
                                                                                                                                                                                                                                                                                                                                                                                                             ACTGCAAGCTC---CTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTG 1971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCCTCAAAGTTTGAAAGGCAAAATTCTAGTGAAGGGTAAGAAGTTGCCTTATCACCTTG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                СТССАСАВАТВСТСААВВЕСААВАТССТСВТВААВВЕВААВВАВСТСССАВВСЕЛАСАТСА 1854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TATTCGGAGACAAACTGGACCTGTCATCTGTTGATACAGGGGAGTGCAAGCAGCTTCCAA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCCCCT 1794
                                                                                                                                                                                                                                                                                                                                                           AGTGCAAATTCAAGCTCCATTATAGTAATGGGACCACTGAGCATCAGGTGGAATCTTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGGATGATGCAGAGGAAGGGAAGTTTCCGATGAGGACAGTGCAGATGAAATTGAAGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genomics Laboratory; 1532-3 Yana, Kisarazu, Chiba 292-0812, Japan (E-mail:genomics@hri.co.jp, Tel:81-438-52-3975, Fax:81-438-52-3986) NEDO human cDNA sequencing project supported by Ministry of International Trade and Industry of Japan; cDNA full insert sequencing: Research Association for Biotechnology; cDNA library construction, 5'. & 3'.end one pass sequencing and clone selection: Helix Research Institute (supported by Japan Key Technology Center etc.) and Department of Virology, Institute of Medical Science, Industry of Technology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             University of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /trānslation="MINFGKHKKTTKSRSKSYSTDDEEDTQQSTGKEGGQLYRLGRRR
KTMKLCRELSDLVVYINSVAAGDI VDGTTGNVLSFSSTRAHGVVQQKSEQGPMIYNQK
QLTRIYPSAYRIDSSNFNPLFYWNAGCQLVALNYQSEGRMMQLNRAKFKANGNGGYLY
LFYGAYRIDSSNFNPLFYWNAGCQLVALNYQSEGRMMQLNRAKFKANGNGGYLY
KFQQMCKGTTNFFSGDPLPANPKKQLILKVISGQQLFKPFDSMFGDRGEIIDFFVEVE
IIGLFVDCCKDQTRVVDDNGFNFVMESTLTFTYMMELIALNXFHSSS
RTVTFSSLVGYRHVLEGLTEASIFTHITINFTYMMELIALNXFHSSG
RTVTFSSLVGYRHVLEGLTEASIFTHITINFTYMMELIALNXFHSSG
RTVTFSSLVGYRHVLEGLTEASIFTHITINFTYMMELIALNXFHSSG
RTVTFSSLVGYRHVLEGLTEASIFTHITINFTYMMELIALNXFHSSG
RTVTFSSLVGYRHVLEGLTEASIFTHITINFTYMMELIALNXFHSSG
RTVTFSSLVGYRHVLEGLTEASIFTHITINFTYMMELIALNXFHSSG
RNSHYVRKSIGDRILKRTASAPAKGRKKSKMGFQEMVEIKDSVSEATRDQDGVLRRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone lib= w..../note="cloning vector: pM neuronal precursor cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FPRQLECVMKMEISET"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRSLQARPVSMPVDRNLLGALSLPVSETAKDIEGKENSLDSSFCRPTEQAKAEMCKVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="unnamed protein product
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /protein_id="BAB14129.1"
/db_xref="GI:10434100"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="NT2RM4000657"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            429 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tokyo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          _type="teratocarcinoma"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 545.2; DB 9;
Pred. No. 3.3e-77;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         457 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            457 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pME18SFL3~mRNA from uninduced NT2
ls."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         588;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                  473
                                                                                                  2150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6
```

Ś

밁

밁

1545

GCCAAAGGCAGGAAAAAGAGCAAAATGGGCTTCCAAGAAATGGT

1588

```
Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                 Ś
                                                                                                                                                              S
                                                                                                                                                                                                                                           В
                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2322
                                                                                                                                                                                                                                                                                                                                                                                       1371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2442
                                                                                                          1491
                                        3222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGGAGGGAGATGAGGGTCAGGACTCCCC------GGGAGGCCAGAGCCGAGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGACCAACTTTGGAAAACATAAGAAAACTACAAAATCACGGTCTAAATCTTACAGTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACCCCACCTGGGAGGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGACTCCATGCTGGGGGACCGTGGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCAAGCCTGGGTGCATGTGCCAGGGCGTGTTCAACCCCCAACTCGGAGGAGCCCCCTGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGGCGGATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACCCGCAGCCCTTCTGGAACGCCGGCTGCCCAAATGGTTGCCCTGAACTACCAGTCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACCAGCAGCAGCTCTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGTCCGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGTCGCCGAAGGAAAACCATGAAGCTCTGCCGAGAACTCTCTGATTTGGTTGTACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GATGATGAGGAAGACACACAGCAGAGTACTGGCAAGGAGGGTGGCCAGCTGTACAGATTG
                                    ACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTCCCGGAGCTGGT 3265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCTTCCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTGGATTGCCAGTAGATTGTTGTAAAGATCAAACCCGTGTGGTAGATGACAATGGATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGCAGCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCAAACCCCAGCAAATGTGCAAAGGTACTTTCAACCCTTTCTCTGGTGACCCTCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGACGAATGATGCAGTTAAACCGAGCCAAATTCAAGGCAAATGGCAATTGTGGCTATGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACCCTCTCCCCTACTGGAACGCAGGCTGCCAGCTAGTGGCACTGAATTATCAATCTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AATCAAAAGCAACTCACGAGGATTTACCCCCTCTGCCTACCGCATTGATTCCAGTAACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCAGTGAAACAAGAGCACATCAGGTTGTTCAGCAAAAATCAGAGCAGTTCATGATTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCAGCGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACTCCGTGGCCGCTCAGGACATTG---TGGATGACGGAACCACAGGAAATGTGTTATCA
                                                                                                          GTAC-----GGAAGCGATCCATTGGAGATAGAATTCTGCGACGCACAGCTAGCGCCCCA
                                                                                                                                                                         CGGCCCCGGCCCGGCCCTCCGTTAGCCAGCGGATCCTGCGGCGCACGGCCAGCGCCCCG 3221
                                                                                                                                                                                                                                                                                                              сталале в сетестествення в применения в прим
                                                                                                                                                                                                                                                                                                                                                                                           TCCATATTTGTACACATAACCATCAATGAAATCTATGGAAAGAACAGACAACTCCAGGGT 1430
                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCTTCAGCAGCTTAGTGCCTGGCTACCGGCATGTCTATTTGGAAGGACTGACAGAAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGTTCCTTGTGGGGATCACGATCCCATTGGACGAGACTTTGTTGGACAAAGAACTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACCCTGTGTGGGAAGAAACACTGACATTTACAGTACACATGCCAGAAATAGCTTTGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>ATTGGGCTCCCTGTGGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTC</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAGACTCCATGTTTGGAGATCGAGGCGAGATCATTGACCCTTTTGTTGAAGTTGAAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCAACCCCAAAAAGCAGCTCATCCTGAAAGTTATCAGTGGACAGCAACTCCCCAAACCT
                                                                                                                                                                                                                                                   CTGAAGGGACTGTTCAATAAGAATCCTAGGCACAGTTCTTCAGAAAACAATTCCCATTAT
=
_
=
=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 1370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      593
```

S

Ş 밁 Ś Ş

á 뭐 Ş 밁 S 밁

```
RESULT 12
AX411650/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
                                                                                                                                                                    δ
                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOURCE
             S
                                         밁
                                                           5
                                                                                           밁
                                                                                                                  Ş
                                                                                                                                             밁
                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 433;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1918
                                                                                                                                                                                                                                                                                  1618
                                                                                                                                                                                                                                                                                                                                                                                        1498
                                                                                                                                                                                                                                                                                                                                                                                                                                             1438
                                                                   1858
                                                                                                                                                                         1738
                                                                                                                                                                                                                             1678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                    1558
                                                                                                                                                                                                                                                                                                                                                              456
                                                                                                                                                                                                                                                                                                                                                                                                                   516
                                                                                            156
                                                                                                                                                216
                                                                                                                                                                                                   276
                                                                                                                                                                                                                                                      336
                                                                                                                                                                                                                                                                                                         396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96
GCAAGCTC 1925
                                                           AGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACT
                                                                                            CTCAAAGTTTGAAAGGCAAAATTCTAGTGAAGGGTAAGAAGTTGCCTTATCACCTTGGG
                                                                                                                                                               TTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCCCCTCTC 1797
                                                                                                                                                                                                                  TCATTGAAACCATCAACAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCA
                                                                                                                                                                                                                                                                                                                         ACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACG
                                                                                                                                                                                                                                                                                                                                                                             ATGCTTGGGTCCTGCAGGCTGCCTGCGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                   CCTCTCACAATACATACCTGTCTGGAGACCAGCTCCTTTCTCAGTCCAAAGTGGATATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                   CGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCCAGTCACGGGTGGACATGT
                                         ATGATGCAGAGGAAGGTTTCCGATGAGGACAGTGCAGATGAAATTGAAGATGAGT
                                                                                                                       CACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGGAAGAAGCTCCCAGCCAACATCAGCG
                                                                                                                                                                                                   TCGAGAATCACTGCAGTATCCAGCAGCAAAGGAAGATTGCTCAGTACCTGTTAGGAATAT
                                                                                                                                                                                                                                                       TTGTGGAGACCATCAACAAGCCTGCCTTTGTGAAGAATGAGTTTCCTGTTACATTGTCTA
                                                                                                                                                                                                                                                                                                            ATGGAGAGCCAGTAGTACATCATGGTTACACTCTCACTTCAATAATTCTCTTCAGAGATG
                                                                                                                                                                                                                                                                                                                                                               ATGCACGGGTGCTGCAAGAGGGCTGTCGCTGTGTGGAAGTTGACTGTTGGGATGGCCCAG
                                                                                                                                              TCGGAGACAAACTGGACCTGTCATCTGTTGATACAGGGGAGTGCAAGCAGCTTCCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Regulation of human phosphatidylinositol-specific phospholipase

c-like enzyme

Patent: WO 0226996-A 4 04-APR-2002;

Bayer Aktiengesellschaft (DE)

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 4 from AX411650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AX411650.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AX411650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zhu, Z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7.1%; Score 328; DB 6; I
nilarity 71.2%; Pred. No. 1.7e-42;
Conservative 0; Mismatches 175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/db_xref="taxon:9606"
161 c 136 g 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GI:21444192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Patent WO0226996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ďď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 646;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PAT 14-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                     1917
                                                                                                                        1857
                                                                                                                                                157
                                                                                                                                                                                                                                                                                  1677
                                                                                                                                                                                                                                                                                                                                     1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                1497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1377
                                                                                                                                                                                                                                                                                                                                                                                           1557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             577
                                            37
                                                                                                                                                                                                      217
                                                                                                                                                                                                                                                                                                            337
                                                                                                                                                                                                                                                                                                                                                                 397
                                                                                                                                                                                                                                                                                                                                                                                                                       457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         517
                                                                                              97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

```
BASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AK023083
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
Ś
                                  밁
                                                               Ś
                                                                                                밁
                                                                                                                                 S
                                                                                                                                                                   밁
                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                 Matches 1013;
                                                                                                                                                                                                                                                                                                                                 Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                   COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                1145 CCGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGC 120
                                                                                                                                    1205
                                                                                                   710
                                                                                                                                                                     650
                                                                                                                                                                                                                                   590
                                    770
                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    36
                                                                                                                                                                                                                                                                CCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCG 1144
CATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCA 1384
                              TCTGGAACTCATTGACCGCTATGAACCTTCAGACAGTGGCAAACTGCGGCATGTGCTGAG
                                                                 CCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGG 132
                                                                                                  CAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTG 1264
                                                                                                                                                                   TGCTGAGGTGCAGGAACTGTTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCT 709
                                                                                                                                                                                                                                   CCAGTCTGGAACCCTGGAAGGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCAAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (23-AUG-2000) Takao Isogai, Helix Research Institute, Genomics Laboratory; 1532-3 Yana, Kisarazu, Chiba 292-0812, Japan (B-mail:genomics@hri.co.jp, Tel:81-438-52-395, Fax:81-438-52-3986) NEDO human cDNA sequencing project supported by Ministry of International Trade and Industry of Japan, CDNA full insert sequencing: Research Association for Biotechnology; cDNA library construction, 5'- & 3'-end one pass sequencing and clone selection: Helix Research Institute (supported by Japan Ky Technology Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Isogai,T., Ota,T., Hayashi,K., Sugiyama,T., Otsuki,T., Suzuki,Y., Nishikawa,T., Nagai,K., Sugano,S., Ishibashi,T., Fujimori,K., Tanai,H., Kimata,M., Watanabe,M., Hiraoka,S., Ishil,S., Kawai,Y., Saito,K., Yamamoto,J., Wakamatsu,A., Nakamura,Y., Nagahari,K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AK023083 3263 bp mRNA linear PRI 01-AUG-200. Homo sapiens cDNA FLJ13021 fis, clone NT2RP3000742, weakly similar to 1-PHOSPHATITYLINOSITOL-4,5-BISPHOSPHATE PHOSPHODIESTERASE DELTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    University of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Saito, K., Yamamoto, J., Wa
Masuho, Y. and Kanehori, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 clone_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AK023083.1 GI:10434839 oligo capping; fis (full insert sequence) Homo sapiens teratocarcinoma cell_line:NT
                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 (bases 1 to 3263)
Isogai,T. and Otsuki,T.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AK023083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NEDO human cDNA sequencing project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Jnpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                  829
                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and Department of Virology, Institute of Medical Science
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    lib:NT2RP3 clone:NT2RP3000742.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29
                                                                                                                                                                                                                                                                                                                                                                                  Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .1.4.11).
                                                                                                                                                                                                                                                                                                                                                                                                     precursor cells after 2-weeks retinoic acid
induction."
                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone="NT2RP3000742"
/cell_line="NT2"
/cell_type="teratocarcinoma"
/clone_lib="NT2RP3"
                                                                                                                                                                                                                                                                                                                                                                                                                              note="cloning vector: pME18SFL3~mRNA from NT2 neuronal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 organism="Homo sapiens'
db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .3263
                                                                                                                                                                                                                                                                                                                50.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tokyo.
                                                                                                                                                                                                                                                                                                                                 7.0%;
                                                                                                                                                                                                                                                                                                                                                                                  O
                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                  Score 323.4;
Pred. No. 6.8
                                                                                                                                                                                                                                                                                                 Mismatches 916;
                                                                                                                                                                                                                                                                                                                                                                                ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                  6.8e-42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  line:NT2 cDNA to
                                                                                                                                                                                                                                                                                                                                DB 9;
                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                              Length 3263;
                                                                                                                                                                                                                                                                                                 70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRI 01-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                  (RA)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo
                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                   649
                                  829
             S
                                                                             Ş
                                                                                                               밁
                                                                                                                                              Ş
                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                밁
                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                  1670
                                                                                                                                                                                                                                                                                                                                                                                                                  2010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1685
```

```
2352 GAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGACCAAAGGCCCACCAGATTCT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1610 AACCAAGGCCAAGCGCCTCATCAAGGAGGCTGGTCAGGACCAAAATGGAGGGATGGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1550 CCGCAGCTTCACACATTCAAAGGAGCACTACCACTTCTACGAGATATCATCTTTCTCTGA 1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1925 CCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAA-- 1982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1865 GGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCT 1924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1430 TGAGACTGAGCCTGAGCCCCAGGAGCAGAACCTTCAGAATAAGGACAAAAAAGAAGAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1565 GCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGA 1624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1505 GGTCCTGCAGGCTGGCTGCCGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGA 1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1445 CAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 830 TATGGATGGCTTCCTCAGCTACCTCTGCTCTAAGGATGGAGACACCCTTCAACCCAGCCTG
                                                                                                                                                AGAGAGGCACAGTGAAACTTTCTGGAGCCAGCTTCAGATGCTGGAGAGAAGGGTGAAGAG 1909
                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGGCCAGAGCCGAGGGGCGACCCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C-AGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAGGATGAGGGTCAGGACTCCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGAAGTGGGATGGATAGGTTCAGGCCTGATGGACTGGCAGGTAAGTCCCCAAGAAAAAAGA 1729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAGGATGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAAGGTAGCTAAGGAGATGAAGGAGTTCAGAAACTCCTTAGAGCAGACAAGGGCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGCCAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCTTCTCCAGGCGCAAGAAGAAGAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTTCGGAGGAAGATCCTGGTGAAGGGGAAGAAGTTAACACTTGAGGAAGACCTGGAATA 1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTCAAGGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAGCTGCTGAGCACCACCTTGGATGGGGTGCTGCCCACTCAGCTGCCCTCGCCTGAGGA 1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACACCACACTCCCCTCTCCACAGAT 1804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAA 1684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TAACACCTACCTAGTGGGGGACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATATATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTCCCCATCTATCAGGATATGACTCAACCCCTGAACCACTACTTCATCTGCTCTTCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCA 1444
                                                                                                                                                                                                                                                                                                                                      ----ATTCGGGACTGTGAGGACCCCAACAACTTCTCCGTCTCCACACTGTCCCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGAGGAAGAGGAAGCAGAACCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACAGTAGCACAGTATGCCTTCCAGACATCAGACTACCCAGTCATCTTGTCCCTGGAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCTGTCGTTTACCACGGACACACCCTGACCTCCCGCATCCTGTTCAAAGATGTCGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGCCCTGAAGCGGGGTGCCGCTGCGTGGAGGTGGATGTATGGGATGGACCTAGCGGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----CTGGATTCCCTCATCAAAGAGTCGAAG------
                                                                                                                                                                                                                                           TGAAGTACACCAAGTCCGTGGCCACCCACGACATAGAGATG 2351
                                                                                                                                                                                                                                                                                                                                                                                                                                 2301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          889
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 14
AF498759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                               SOURCE
                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                         COCUS
                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2647
                                                                                        CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTTACCGCCACATTCACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TAGGCAGGGTCCTTGGGACTAGGGAAGTGGGAGATTCCACCCCACTTCCATCTCCCTCTC 1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTACAGACACGTGTACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTTTCCGGGTGCTGGTGCCTGAACTTGCCATGCTGCGTTTTGTGGTAATGGATTATGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCAGGAGACCAACTATGTGGAGAACAATGGTTTTAATCCATACTGGGGGGCAGACACTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGGAGACCCCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACTGCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCCAGAGTTCTTTCCACCCTGAGAAGCCCATCAGCCCTTTCAAAGCCCCAGACTCTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGTGTTCAACCCCAACTCGGAGGACCCCCCTGCCCGGGCAGCTCAAGAAGCAGCTGGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGCATTTCCGCCAGAATGGCGGCTGTGGCTATGTGCTGAAGCCAGACTTCCTGCGTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccaagricagegecaacegeregeregeraceraceraagecregeregarerege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTGCCAGATGGTGGCCATGAATATGCAGACTGCAGGGCTTGAAATGGACATCTGTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ССТСССАЛА ТССТТСТСТСТСТВА СТАССАСТСА СВЕССЕ СВЕТСЕ СВЕТСЕ В СЕТОСА ССТВА ССТВА ССТВА СТАСТВА СТАСТВА СТАСТВА С
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCCCAGCGGCCTGAGGACAGACTCTTCCAACTACAACCCCCAGGAACTCTGGAATGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCCCTCCTCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCCCTTCTGGAACGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TATACCCTTTTACAGGCAATGAGTTTGTGCAGCACAATACTTGGCAGTTAAGCCGTGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----GCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCAGCTCTCCCGCATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCA---TCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGTCTGGGACCACGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----ATTGTGGATCCACTGGTGAAAGTGCAGATCTTTGGCGTTCGTCTAGACACAGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCCAGGTGATCAGCGGTCAGCAACTCCCCAAAGTGGACAAGACCAAAGAGGGGTCC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGACTCCATGCTGGGGGGACCGTG
                                                                                                                                                                                Submitted (03-APR-2002) USDA/ARS U.S. P.O. Box 166, Clay Center, NE 68933, U
                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
                                                                                                                                                                                                                                                                                                              Sus scrofa
                                                                                                                                                                                                                                                                                                                                 sus
                                                                                                                                                                                                                                                                                                                                                                                   Sus scrofa phospholipase C delta 4 mRNA, AF498759
                                                                                                                                                                                                                                                                                                                                                                  AF498759.1
                                                                                                                                                                                                                                                                                                                                                                                                                         AF498759
                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                      (bases 1 to 3113)
                                                                                                                                                                                                                                                                                                                                 scrofa.
                                                                                                                                                                              166, Clay Center,
                 /codon_start=1
/product="phospholipase C
/protein_id="AAM18122.1"
/db_xref="GI:20269957"
translation="MASLLQGLSASPGSGLPINQDLLLMQKGMLMRKVRSKSWKKLRY/
                                                                                                     organism="Sus scrofa"
/db_xref="taxon:9823"
                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                  GI:20269956
                                                                                         .2503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3022
                                                                                                                                                                                                                                                                                                                                                                                                                       3113 bp
                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA
                                                       delta
                                                                                                                                                                                   USA
                                                                                                                                                                                                   Meat
                                                                                                                                                                                                                                                                                                                                                                                                      complete cds
                                                                                                                                                                                                   Animal Research
                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                         MAM
                                                                                                                                                                                                                                                                                                                                                                                                                         23-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3003
                                                                                                                                                                                                     Center,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2089
```

S 밁 Ş 밁 Ś В Ş 망 Ş 밁 Ş 밁 S 밁 Ś 밁 8

1044

984 609 924 554 864 494 804 434 744 377 684 317 624 257

722

Ś

TACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC CACGAGCCTTCAGATAGTGGCAAACTGCGGCACGTGCTGAGCCTGGACGGCTTCCTCAGC

1403 1018 TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAAC

CAAGAGGAGCAGAAAGGAAGGAGAACGTGCTTCTGATCTTGCTCTGGAACTCATCGACCGC

958

á 밁 Ś 밁 Ş 밁 Ś 망

1224

839

899

1164

1104

밁

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGC---GGCTCCAAGGGCCTGGTCCGC 623
                                                                                                                      ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG
                                                                                                                                                                                                                                                                                                             GAACATGCCTTCCÁGCTTTTCCAGACÁGCAGÁCACATC---CCÁGTCTGGGÁCTCTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCCGCCCCCAACCTGGACCTGGTGGCCAACAGTGTTGAGGAGGCCCAGGTCTGGATG 553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TACAGACTTCAGGACGATGGCATGACAGTCTGGCATGCCCGGCAGGCCGGAGGCAGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAGGCCCTCACGCAAGAACGAG
                                                                                                                                                                                                                                                TITGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTC 1163
                                                                                                                                                                                                                                                                                                                                                                          CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGT 1103
                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGATGAGTTTCGGAGAAGTCCAGCGGTTACTGCACCTGATGAATGTGGAAATGGACCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCCTGAGCATTGGCGAGGTCCTGCAGCTGCACAAGCTCAACGTGAACCTGCCCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAAGGGCTCCAGCTATTGGTGGACTTTGTCACTAACATGGACCAACAGGAGCGGC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACAGCCTGGCTCGCCGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTGCTGCGCAACCTGGCAGAGGAGTTCCCCCCTGGAGCAGGGCTTCACCATCGTCTTCCAT 493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTTCAGCATCTACCACGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGCAGAAAGGTATGCTGATGCGCAAGGTGAGGTCCAAAAGCTGGAAGAAGCTAAGATAC
CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGGATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGCCCAGCTTCTCAATCTCCGATGTGGAAACGGTGCGTGGGGGCCATGAGTCTGAG---
                                                                TTTGAAAACTTTTCATCTGATGGGCAGAAGCTAACACTGCTGGAATTTGTGGATTTCCTC
                                                                                                                                                                                   GGAGAAGAATTTGTAGAATTCTATAAGTCATTGACTAAGCGTGCTGAGGTGCAGGAATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---TGGACCAATGGCTGAGTGATTGGTTCCAGCGTGGAGACAAAAACCAGGATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HIHLLSKDGISLHPASIFVHICIREGIEGVES"
1 828 c 856 g 641 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     YLKAVSFYSFAHSREHYRFYEISSFSEAKAKSLIKESGNEFVQHTWQLSRVYPOGLR
TDSSNYNDQEFWNAGCQMVAKMMQTAGLEMDLCDGIFRQNAGCGYVLKPDFLRDAQSS
FHPERPISSKAQTILIQUISGQQLFKVDDSKEGSIVPVURVEIFGVURPDTARQETS
YVENNGFNPYWGQTLCFRVLVPELALLRFVVKDYDWKSRNDFVGQYTLFWNCMQQGYR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LSYLCSKDGDIFNPTCLPIYQDMTQPLNHYFINSSHNTYLVGDQLCGQSSVEGYIRAL
KRGCRCVEVDIWDGPNGEPVVYHGHTLTSRIPFKDVVAAIAQYAFQTSDYPVILSLEN
HCSWEQQEMIAHHLTEILGEQLLSTTLDGQLFTQLPSPEELRRKILVKGKKLRTULEED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HGRRSNLDLVANSVBEAQVMMQGLQLLVDFVTNMDQQERLDQWLSDWFQRGDKNQDGR
MSFGEVQRLLHLMNVEMDQEHAFQLFQTADTSQSGTLEGEEFVBFYKSLTKRAEVQEL
FENFSSDGQKLTLLEFVDFLQEEQKEGERASDLALELIDRHEPSDSGKLRHVLSLDGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LEEEEEEPEESELEGEQEAELELEAQFESEPQELSPRSKDKKKKVKAILCPALSALVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YRLQDDGMTVWHARQAGGRAKPSFSISDVETVRGGHESELLRNLAEEFPLEQGFTIVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 54.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 314.4; DB 4;
Pred. No. 1.9e-40;
0; Mismatches 581;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 3113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       683
                                                                                                                                1223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                743
                                                                      898
                                                                                                                                                                                             838
                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4
```

Matches

```
RESULT | 15
AX287194
 Ş
                                      밁
                                                                       S
                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뭆
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                       BASE COUNT
                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COCUS
                                                                                                          Query Match
Best Local Similarity
Matches 679; Conserv
                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1404
804 AGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGCACCTGGGTC 863
                                      229
                                                                           144
                                                          TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGGC 803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCC 1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TACCTCTGCTCGAAGGACGGAGACATCTTCAATCCGACCTGCCTCCCCATCTACCAGGAT 1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GATGAG 1889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGAAGGGGAAGAAGTTAAGAACACTTGAGGAGGATCTTGAGGAAGAGGAGGAAGAGCCA 1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCA 1763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGACTCAACCCCTGAACCACTACTTCATCAACTCCTCCCACAACACCCTACCTAGTGGGG 1138
                                  TTGCTGCGTAGCCTGGCAGAGGAGCTCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAAGAG 1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCCGAGGTGTCT 1883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGGATGGGCAGCTTCCCACTCAGCTGCCCTCCCCCGAGGAGCTTCGGAGGAAGATCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGAGCAGTGAAGATGCCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTC 1823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGGAGATGATAGCACACCACCTGACTGAGATCCTGGGGGAGCAGCTCCTGAGCACCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACACCCTGACCTCTCGCATCCCGTTCAAAGATGTTGTGGCCGCTATAGCACAGTATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGC 1583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACCAGCTTTGTGGCCAGAGCAGCGTGGAGGGTTACATACGGGCCCTGAAACGGGGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCCAGACATCAGACTATCCAGTCATCTTGTCCCTGGAGAACCACTGCAGCTGGGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCTGCGTGGAGGTGGATATATGGGATGGACCTAACGGGGAACCTGTTGTTTATCACGGA 1258
                                                                                                                                                                                                                                                                                                             Friedrich,G., Zambrowicz,B. and Sands,A.T.
Human phospholipases and polynucleotides encoding the same Patent: WO 0168871-A 14 20-SEP-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 14 from Patent WO0168871. AX287194
                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                   Hu,Y., Nepomnichy,B., Donoho,G., Hilbun,E., Turner,C.A., Abuin,A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AX287194.1 GI:17049130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AX287194
                                                                                                                                                                                                                                                                                                Lexicon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    numan
                                                                                                                                                                                                       568
                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens
                                                                                                              Conservative
                                                                                                                                                                                                                                                                          Genetics Incorporated (US)
Location/Qualifiers
                                                                                                                                                                                                 /organism="Homo sapiens"
/db_xref="taxon:9606"
1 588 c 623 g 51
                                                                                                                                                                                                                                                           1. .2289
                                                                                                                           6.7%;
54.2%;
                                                                                                        Score 308.6; DB 6; Length Pred. No. 1.7e-39; O; Mismatches 559; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2289 bp
                                                                                                                                                                                                     510 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA
                                                                                                                                             Length 2289;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                            15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PAT 21-NOV-2001
                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1198
                                                                                                          2
```

```
S
                                                          밁
                                                                                        5
                                                                                                                                 Вb
                                                                                                                                                                  8
                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                          맑
                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ď,
1884 GATGAGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC
                                                                                                                                                                                                         1174
                                                                                                                                                                                                                                                                                                                                                                                  1584 TACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAATATGCC 1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1404
                                                                                                                                                                    1764 GTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTC 1823
                                                                                                                                                                                                                                                                                                                         1644
                                                                                                                                                                                                                                                                                                                                                              1054 CACACCCTGACCTCCCGCATCCTGTTCAAAGATGTCGTGGCCACAGTAGCACAGTATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCA 1763
                                                                                                                                                                                                                                                                                                           TTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TACACCAGGAGCCCTGCTGGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTGAAGGGGAAGAAGTTAACACTTGAGGAAGACCTGGAATATGAGGAAGAAGAAGCAGAA 1353
                                                                                            GTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCT 1883
                                                                                                                                 TTGGATGGGGTGCTGCCCACTCAGCTGCCCTTCGCCTGAGGAGCTTCGGAGGAAGATCCTG
                                                                                                                                                                                                         CAGCAGACCATGGCCCGTCATCTGACTGAGATCCTGGGGGAGCAGCTGCTGAGCACCACC
                                                                                                                                                                                                                                                                                  TTCCAGACATCAGACTACCCAGTCATCTTGTCCCTGGAGACCCACTGCAGCTGGGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATATATACGGGCCCTGAAGCGGGGGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG 1223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTC 1163
                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCTGCGTGGAGGTGGATGTATGGGATGGACCTAGCGGGGAACCTGTCGTTTACCACGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAAGAGGAGCAGAAGGAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTTGGATTTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGAGAAGAATTCGTACAGTTCTATAAAGGCATTGACTAAACGTGCTGAGGTGCAGGAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAATATGCCTTCAGTCTTTTTCAGGCAGCAGACACG---TCCCAGTCTGGAACCCTTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGAĞĞĞCTCCAGCTGTTĞĞTĞĞATCTTĞTCACCAĞCATĞĞACCATCAĞĞAĞCĞCCT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCCGCCGCTCCAACCTGGACCTGATGGCCAACAGTGTTGAGGAGGCCCAGATATGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGCCTGAGCATTGGCGAGGTCCTGCAGCTGCACAAGCTCAACGTGAACCTGCCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGGATGGC 983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----GGACCAATGGCTGAGCGATTGGTTTCAACGTGGAGACAAAAATCAGGATGGT 456
                                                                                                                                                                                                                                                                                                                                                                                                                                     1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1403
                                                                                                                                                                                                         1233
                                                                                                                                                                                                                                                                                    1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           348
```

- 皮 1354 CCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCC 1413
- Ś
- 망

Search completed: March 28, 2003, 16:25:43 Job time : 13960 secs

		•	
•	 	· · · · · · · · · · · · · · · · · · ·	
•			
•			
•			

```
OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         seq length: 0
seq length: 2000000000
N Geneseq 101002:*

1: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1980.DAT:*
2: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*
3: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1982.DAT:*
3: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1983.DAT:*
4: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1984.DAT:*
5: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1984.DAT:*
6: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1984.DAT:*
7: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*
9: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1989.DAT:*
9: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1997.DAT:*
10: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1999.DAT:*
11: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1999.DAT:*
12: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1991.DAT:*
13: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1992.DAT:*
14: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*
15: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*
16: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*
17: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*
18: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*
20: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*
21: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*
22: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*
23: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*
24: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*
25: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA2001A.DAT:*
26: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA2001A.DAT:*
27: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA2001A.DAT:*
28: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA2001A.DAT:*
29: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA2001A.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-927-112-1
4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         March 28, 2003, 12:21:39 ; Search time 1027 Seconds (without alignments)
10163.595 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2185239 segs, 1125999159 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 tcgcgatctagaactagtgg.....ggtaacggggcccagccccg 4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4370478
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIE

ი 98	76	4. D	ω	2	1	Result	
442.8 328	780 545.2	1111.2 780	2161.4	2838.4	3684.6	Score	
9.6 7.1	16.8 11.8	24.0 16.8	46.6	61.2	79.5	Query Match Length DB	æ
534 646	5551 1977	3433 5551	2243	6551	4237	ength	
2 2 4	24 22	23	24	24	24		
ABK71572 AAD31082	AAH17609	ABL60537 AAS77856	ABA94696	ABK12390	ABA96005	ID	
Human dicnp polynu Human PI-PLC-like	Human PI-PLC-IIKe	DNA encoding novel	Human lipid metabo	cDNA encoding huma	Human lipid metabo	Description	

	0 0			
44440	ω ω ω ω ω ω ω ω ω ω ω ω ω ω ω ω ω ω ω	332	2265432	110 111 112 113 113 114 115 116 116 116 117 118 119 119 120 220
176.4 176.4 174 173 167.4 161 161			280.8 276.8 276.8 276.2 276.2 276.2 276.2 276.2	6
			000004 400004	C a a a a a a a a a a a a a a a a a a a
3893 3893 2416 2416 5370 4519 4242	4565 4565 423 232	817 567 567 567	2104 3068 3068 2462 2540 2540 3594	3263 2289 2289 2629 2709 1840 2520 3425 3544 2211 2627
17 22 23 24	444444	22222	22 24 24 24 24 24	222222222222222222222222222222222222222
AAT12292 AAT12293 AAH07553 AAH16555 ABL07877 ABK84127 ABK84127	ABL68245 ABL68492 ABL68865 AAL24028 AAL15182	AAH16851 ABA13565 AAS26989 AAI63949 ABK43964	AA163875 ABK94917 ABK94945 AAD23723 AAD23722 ABA94695 AAT58225	AAH16211 AAD17564 AAD23721 ABK10063 AAD17567 AAD17567 AAD19219 ABL60544 AAH43471 AAH43471 AAH43460 ABM96796 ABM96796 ABK43682
Phospholipase C-ga Human cDNA clone (Human cDNA sequenc Drosophila melanog Human cDNA differe Human cDNA differe	Kidney cancer rela Kidney cancer rela Kidney cancer rela Kidney cancer rela Human breast cance Human breast cance Phogapholinase C-ga	Human cDNA clone (Human nervous syst cDNA encoding nove Human polynucleoti DNA encoding novel		

ALIGNMENTS

```
ABA96005
                                                                                                                                                                                                                                                                                                                                                         RESULT 1
                                                                                                                                                                                                      Human; LME-5; lipid metabolism enzyme-5; cytostatic; neuroprotective; immunosuppressive; anti-inflammatory; cardiovascular; gene therapy; enzyme therapy; cancer; neurological disorder; autoimmune disorder; inflammatory disorder; cardiovascular disorder; ss.
                                                                                                                                                                                                                                                              Human lipid metabolism enzyme-5 (LME-5) cDNA.
                                                                                                                                                                                                                                                                                                                                  ABA96005 standard; cDNA; 4237
                                                                                                                                                                                                                                                                                                              ABA96005;
11-MAY-2000; 2000US-203511P.
25-MAY-2000; 2000US-207903P.
07-JUN-2000; 2000US-210150P.
23-JUN-2000; 2000US-213392P.
                                                                                                                                                                                                                                                                                       04-MAR-2002
                                                         11-MAY-2001; 2001WO-US15210
                                                                                15-NOV-2001.
                                                                                                     WO200185956-A2.
                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                   99..3818
                                                                                                                           /*tag= a
/product= "LME-5"
                                                                                                                                       /*tag=
                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                      BP.
```

```
Best Local Sim
Matches 3926;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The sequence encodes a novel human lipid metabolism enzyme (LME-5) of the invention. The invention relates to novel human LME's, and the polynucleotides which identify and encode them. The enzymes of the invention have cytostatic, neuroprotective, immunosuppressive, anti-inflammatory, and cardiovascular activity. The polypeptides and polynucleotides have a use in gene therapy and enzyme therapy. The lipid metabolism enzymes are useful in the diagnosis, treatment and prevention of cancer, neurological disorders, autoimmune/inflammatory disorders, and cardiovascular disorders, autoimmune/inflammatory disorders, and exogenous compounds on the expression of nucleic acid and amino acid exogenous compounds on the expression of nucleic acid and amino acid exogenous compounds on the expression of nucleic acid and amino acid exogenous that modulate the activity of LME. Polynucleotides encoding that modulate the activity of LME. Polynucleotides encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IME may be used for somatic or germline gene therapy, to detect and quantify gene expression in biopsied tissues in which expression of LME may be correlated with disease, to generate a transcript image of the result type, to generate hybridization probes useful in mapping the naturally occurring genomic sequence, and for screening libraries of compounds in drug screening techniques. The polypeptide sequences may be used to analyse the proteome of a tissue or cell type. Oligonucleotide primers derived from polynucleotide sequences encoding LME may be used to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 4237 BP; 816 A; 1327 C; 1370 G; 724 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                detect single nucleotide polymorphisms.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Das D, Reddy R, Yao MG,
Khan FA, Gandhi AR, Au-)
Ding L, Thornton M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New lipid metabolism enzymes useful for diagnosing, treating and preventing cancer, neurological disorders, autoimmune/inflammatory disorders, and cardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 5; Page 121-122; 122pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P-PSDB; ABB08205.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2002-089794/12.
                                                                        447
                                                                                                                                       906
                                                                                                                                                                                                                                                                       846
                                                                                                                                                                                                                                                                                                                                         327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       546 GTGGAGCGGTGCATGGGTGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGC 605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (INCY-) INCYTE GENOMICS INC.
                                                                                                                                                                                                         387
                                                                                                                                                                                                                                                                                                                                                                                                        786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                   GTGGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGC 785
                                                           AGCCTGGCTCGCCGCCAGCGCACCAGGGACCAATATCCTTGGGCACCTATCGGGCAATGC 506
                                                                                                                                       AGCCTGGCTCGCCGCCAGCGCACCAGGGACC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAGG 665
                                                                                                                                                                                              GTGGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGAC 446
                                                                                                                                                                                                                                                                                                                                                                     TTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAGG 206
                                                                                                                                                                                                                                                                                                                               TTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGGAGCGGTGCATGGGTGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGC 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             79.5%; Score 3684.6; 94.6%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MG, Nguyen DB, Lu Y, Triboule Au-young J, Lal P, Kearney L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 24; Length 4237;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tribouley CM, Yue H; sarney L, Elliott VS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels 219; Gaps
936
                                                                                                                                936
                                                                                                                                                                                                                                                                                                                               386
                                                                                                                                                                                                                                                                                                                                                                                             845
                                                                                                                                                                                                                                                                                                                                                                                                                                                            326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2
```

음 성

8 8 8 8 8 8 8 8 8 8

5 B 5 B 5

1886	AAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGAT	1827	8
1586	AGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTG		ф
1826	GCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTG	1767	VQ YQ
1766 1526	AAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCAGTG	1707 1467	D Qy
44		40	Db
	.TCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAGCAG	1647	Ş.
1646 1406	ACTOTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCCTTC	1587 1347	망양
1346	GCGTGGAGGTGGACTGCGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGCTAC	22	Db
1586	TGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGCTAC		8
1286	CAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTCCTGCAGGCTGGCT	1227	Db
1526	AGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTCCTGCAGGCTGGCT	1467	Qy
N	ACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCCTACCTCGTGGGTGAC	1167	Дb
146	cgcagccgctgagccactacttcatcacctcgtcccacaacacctacct	1407	Qγ
116	ACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGACATG	1107	Дb
140	ACCAGGAGCCCTGCTGGTGACATCTTCAACCCCTGAGCACCACCATGTGCACCAGGACAT	1347	δ
110	GAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGCGCCATTGATGGCTTCACCAACTAC	1047	Db
134	GAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAACTA	1287	γQ
104	GTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTT	987	DЬ
128	GTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAC	1227	Ş
986	CTGACCTACAGCAAC	927	뫄
122	ACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCA	116	γQ
	GAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCGGGACCTCTACCTGCTCATG	867	DЬ
116	GAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCGGGGACCTCTACCTGCTCA	1107	δ
	7 ACCCAAGGCCTTGCATTGCAGGAAGCGGACACGGATGACCAAGGGACGCTGGGTTTT	80	ఠ
110		106	γQ
806	GCCCTGGTCGAGGTGCCAATGG	74	Дb
106		106	γQ
746	CGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGTG	68	dd dd
106	GTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTC/	102	Ş
686	7 GACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTC	62	DЬ
	салдалсоооратоослостолосттоосолостослостослостослост	96	γQ
N	7 CACACTGGGGAAGTGGCCGGCCAGAGGGTGGAGTGGCTGAAGCAGACGTTTGACGAGGCC		Дb
ÓΥ	AGTGGCTGAAGCAGACGTTTGACGAGGA	93	δ
566	7 AGACCCAGGGACCGGCCCCTTGGCTGCTCACCCTGGGGGGGCCTGTCCTTTGCCGGGTCA	50	닭

ACTTCATT 272	GAGATCGCGCTGGTCCGCTCTGGGACCACGATCCCATCGGGCGTG	B &
ACATGCCG 26 ACTTCATT 29	GACGACAACGGGTTCAACCCCACCTGGGAGGAGAACCCCTGGTTTTCATGGTGGTGT	? 문
ACATGCCG 290	GACGACAACGGGTTCAACCCCACCTGGGAGGAGACCCTGGTTTTCATGGTGC	S
CGTGGTG 28	GGGCTCCCTGTGGACTGCAGCAGGGAGCAGACCC 	95 63
CCCTTT 254	CAGCTTCCCAAGCCGCGACTCCATGCTGGGGACCGTGGGGAGATCAT	Db :
CCTTT 2	CAGCTTCCCAAGCCGCGCGACTCCATGCTGGGGGACCGTGGGGAGATCA!	ş
GTGGCCAG 2726 GTGGCCAG 2486	GAGGACCCCTGCCCGGGCAGCTCAAGAAGCAGCTGGTGCTCC 	음 성
CTCG 24	GGCTGCGGCTACGTACTCAAGCCTGGGTGCATGTGCCAGGGCGTGTTCAAC	뮍
- 26	GGCTGCGGCTACGTACTCAAG	ð
23		망
26	AACTACCAGTCAGAGGGGCGGATGCTGCAGCTGAACCGAGCCAAGTTCAGCGC	§
TTGCCCTG 2546	GACTCCAGCAACTACAACCCGCAGCCCTTC 	B 8
224	CAGTACCTACGCTTCAACCAC	DЪ
248	CAGTACCTACGCTTCAACCAC	Ş
21	TGGCAGGTGTCGTCCTTCAGO	문
1906 2	TGGCAGGTGTCGTCCTTCAGCGAGAC	δ
 AGC 212	CTGGTGAAGTACACCAAGTCCGTGGC	B &
CGTCCAGC 2366	CTGGTGAAGTACACCAAGTCCGTGGC	Ş
GAC 2	CAGAGCCGAGGGGCGACCCGG	당 성
GGC	AAGCTGAAGAAGGCGGCCAGCGTGGA	밁
–ନ	NAGCTGAAGAAGGCGGCCAGCGTGGA	Ş
 AGC 194	HICAGA CGCAATGGCCGCCTCGTCGT	B 5
GGGCAGC 218	TATOR REDUCTION OF A COLUMN TRANSPORT TO SERVICE A COLUMN TO COLUMN TRANSPORT TO SERVICE A COLUM	}
CGGGGCC 2126	AAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAAGTCTGGGGAAGATGG	\$ 5
TCTGGA 182	AGATTCGGGACTGTGAGGACCCCAACACTTCTCCGTCTCCACACTGTCCC	Db
TCTGGA 20	AGATTCGGGACTGTGAGGI	8
GA	ATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCATCA	당
GAGTCG 20	латссалассстстасала	Ş
TCCACC 170	ANGGACNA IGC ISAI GAGA I GACGAI GAC I GCAMACI I CITA IGAGGAI 	유 성
GTCTGAT 1	AGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGG AGGGGAAGGATTCTTCAACATTCAACATTCAACATTCAACTTCTTCAATTCTGAATTC	g g

987 GIGCTCGIGGCICTGTATCCGIGGCACTGTCTCCGTGGCACTCTGCCTCGCTTGGCTTG	
27 AIGGCIGGGCCIGGGICACCIGCIGCIGCIGCIGGACGGIGGACGGIGICGCCICCGIGIGCIC 398	36
67 CCCATGTTCTCCGCCGGTAAGCCCCTCTTGCCCTGCGTGGTCCTCCCGCACGCCCCT	36
07 CTGCAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGAATCAGGAGTAAAT 	35 8
47 CCGGGCATCCCCGAAAGGTCCCCCCCGCTGGCCTGAGGGTGCCTGCAGGCAACCG 	37 35
87 TGGAGGCAGGGTCCAGGCGGTAGCGGCTCC.	36
27 GGCCTGGACCCTCACGCTATCCCCGGGGAGAGACAGAGAGGCCCCCAAGGGTCCTGGGGCC 368	36 33
7 CAGGCAGCCATTCGCCAGCAGCACCCGGGCCGGGCTGACTCACTGGGGGCCCCCT	
7 GECGTGAACACCGGGGGCCTGCAGAGGGGAGCCGCCACCCAGCCCGGGGCCTGCAAGCAGG 35	Qy 350 Db 326
7 GGCCCCGGGCCTGCTGGGATGGCCGCCACATGCATGAAGTGTGTGGTGGGGATCCTGCGCC 35	to to
7 GCGCCAGCTGCGGTGGCAGAGAAGACCCTGTGCGAGTGCGGCCCCCGCGTGTCCTGGAC 344	10 10
7 GGACCTGCTCCGGAAGCCCCAGCCCAGGAGGGGCCCCGGCAGCGGCAGCCCCCC	ta ta
7 CTGGGTACACGGGACACAGGCTCCAAGGGGGGTGGCAGACGATGTGGTGCCCCCCGGC 	(1) (1)
ACGGCCAGCGCCCCGACCAAGAC	Qy 320 Db 296
.47 AGTCATGCTGCTGGGGGGCCCCCGGCCCGGCCCTCCGTTAGCCAGCGGATCCTGCGGCGC 3206	ν ω
87 AAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCC	30 28
27 GGGATGGAAGAGGCCTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTC 308 	30 27
67 GGCCAGAGGACGCTGGCCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAA 302 	7 9

```
RESULT 2
ABK12390
ID X1 XX
ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK1
XX ABK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멼
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
   WPI; 2002-280936/32
                                                                                                                                                                                                                          23-AUG-2000; 2000US-227429P.
08-SEP-2000; 2000US-231370P.
15-SEP-2000; 2000US-233212P.
29-SEP-2000; 2000US-236865P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; lipid metabolism enzyme; LMM-6; immune system disorder; neurological disorder; developmental disorder; cancer; nootropic; cell proliferative disorder; immunomodulator; neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                            22-AUG-2001; 2001WO-US26365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WQ200216597-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cytostatic; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cDNA encoding human lipid metabolism enzyme, LMM-6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     05-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABK12390 standard; cDNA; 6551
                                                                                                                                                                       INCY-) INCYTE GENOMICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGAAGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCGTGGAGTAGATTCCCTGGGCCCCAGGGCTTCGCTGCTTTTGGGCTGAAGCACCCCACT 4466
                                                                                  NK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGAAGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCGTGGAGTAGATTCCCTGGGCCCCAGGGCTTCGCTGCTTTGGGCTGAAGCACCCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGTAGTGCAGCTGCGGCGTCTCCTGCGCCCCTGGGACGCCTGGAGCCTGCTGAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGTAGTGCAGCTGCTGGGCCTCTCCTGCGCCCCTGGGACCCTGGAGCCTGCTGAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CATTCCCACCTCCAGGGCAGGCTCCAGGGGTCCCTACTGGGAAGTCTGATGTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CATTCCCACCTCTAGGGCAGGCTCCAGGGGTCCCTACTGGGAAGTCTGATGTGGGC 4346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGGCTGGCGACCTGCATGCCCTGATGCCTTTCCTGGGACTGGGGGCCATGTACCATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACTGTGGCCTGACATGCTGGGCCCCTCCGGCTGGGCGCTTCCCCAAACTCACCTCCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACTGTGGCCTGACATGCTGGGCCCCTCCGGCTGGGCGCTTCCCCCAAACTCACCTCCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGTTTGAGGCCCGACAGGCTGGGAAGAACCAGCTGCTCTTGCTGAGGGTCTGGGGCCGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTTTGAGGCCCGACAGGCTGGGAAGAACCAGCTGCTCTTGCTGAGGGTCTGGGGCCGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTGGCCCATAGCCCCAGCCCTCCTGTCTGAGCTTGAGGCCCTGGGACTTGGGTGGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTGGCCCATAGCCCCAGCCCTCCTGTCTGAGCTTGAGGCCCTTGGGACTTTGGGTGGAGCT 4106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGGCTGGCGACCTGCATGCCCTGATGCCTTTCCTGGGACTGGGGGCCACGTACCATCC
                                                                               JA, Patterson C, Gaı
K, Hafalia AJA, Ding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1..4860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       product= "LMM-6"
                                                                               Gandhi AR, Lu Y, Y
ing L, Tribouley CM,
                                                                                                             Yao
                                                                               o MG,
Das D,
                                                                               Baughn MR;
, Thornton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4046
```

```
밁
                                 Ş
                                                                           밁
                                                                                                             Ş
                                                                                                                                                    뮍
                                                                                                                                                                                      Š
                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                     片
                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity Matches 3342; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1708
                                                                                                                                                    1948
                                                                                                                                                                                                                                                                                                         1828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             polynucleotide sequences encoding them. The LMM polypeptides, polynucleotides, agonists and antagonists are useful for diagnosing, treating or preventing disorders associated with aberrant expression of LMM, particularly immune system disorders (e.g. acquired immunodeficiency syndrome (AIDS), thymic hypoplasia, anaemia, asthma or Crohn's disease), neurological disorders (e.g. epilepsy, Huntington's disease, dementia or Parkinson's disease), developmental disorders (e.g. bown's syndrome) or cell proliferative disorders (e.g. cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma or sarcoma). The present sequence encodes for human LMM-6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New lipid metabolism enzymes, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 6551 BP; 1230 A; 2108 C; 2172 G; 1041 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           metabolism enzymes (LMM) designated LMM-1 to LMM-6, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention relates to the isolation of human lipid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 56; Page 120-122; 122pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P-PSDB; AAU77498.
                                                                                                                                                                                                                                                                                                                                                                                                                      846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (e.g. cancers)
AACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGTGGCTGGTCATGCCTGG
                                     AACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAG-
                                                                                                 GACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCTGCACAAGCTC
                                                                                                                                                  CACACTGGGGAAGTGGCCGGCCAGAGGGTGGAGTGGCTGAAGCAGACGTTTGACGAGGCC
                                                                                                                                                                                                                           AGACCCAGGGACCGGCCCCTTGGCTGCTCACCCTGGGGGGGCCCTGTCCTTTGCCGGGTCA 1947
                                                                                                                                                                                                                                                                                                   AGCCTGGCTCGCCGCCAGCGACCAGGGACCAATATCCTTGGGCACCTATCGGGCAATGC 1887
                                                                                                                                                                                                                                                                                                                                                                              GTGGCGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGAC
                                                                                                                                                                                                                                                                                                                                       AGCCTGGCTCGCCGCCAGCGCACCAGGGACC-----
                                                                                                                                                                                                                                                                                                                                                                                                                    GTGGCGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCAAGGGCCTGGTCCGCTTCTACCTGCACGGAGCACCGCTCCTGCATCCGCTGGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGCCAGCTTCGACCCCAACTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGGAGCGGTGCATGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGGAGCGGTGCATGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGC 605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61.2%;
87.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 2838.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                      -AGTGGCTGAAGCAGACGTTTGACGAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 24; Length 6551;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      457;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                             1025
                                                                         2067
2127
                                                                                                                                                  2007
                                     1066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1527
                                                                                                                                                                                                                                                                                                                                          936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         665
```

4.

Ş

2080	Qy 2067 AAGCTCGGACGCAA	9
IGA 2066 	QY 2007 AAGATTCGGGACTGTGAGGACCCCAACAACTTCTCCGTCTCCACACTGTCCCCATCTG	₽ <i>9</i>
CG 2006 CG 3147	OY 1947 AATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCATCAAAGAGT	₽ <i>9</i>
CC 1946 	1887 GAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCCA	B 성
AT 1886 AT 3027	1827 AAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGA	B 성
TG 1826 	29 1767 AGCAGTGAAGATGCCACCACCACTCCCCTCTCCACAGATGCTCAAGGGCCAAGATCCTCGTG	B 8
TG 1766 TG 2907	2 1	유 성
AG 1706 AG 2847		유 성
TC 1646 		유 성
AC 1586 AC 2727	2 1	B 6
3C 1526 3C 2667	2 1	B 8
AC 1466 	2 11	라 성
rg 1406 		P &
AC 1346 	1287 GAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAACT	당 성
TT 1286	y 1227 GTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCATCGAGCAGTTT	망양
AG 1226 	1167 CTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGC	g Sy
TG 1166	1107 GAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGGCGGGACCTCTACCTGCTCA	B &
T 1106	y 1067	음 성
218	2128 CTGGAGCAAGGGAAGCTGGCCTGCTCACAGGACAGGGCCCCTGGTCGAGGTGCCAAI	ఠ

C 2969 C 4347	2910 ATCGCGCTGGTCCCCCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGG 	da VQ
42	3GAGGAGACCCTGGTTTTCATGGTGC 	dd Vy
422	CATTGGGCTCCTGTGGACTGCAGCAGGAGCAGACCCGCGTGGTG 	р Q
416	108 CTTCCCAAGCCGCGACTCCATGCTGGGGGACCGTGGGGAGATCATCGACCCCTTTGT	Db
278	PARTICIPATION OF THE PROPERTY) }
G 2729	0 GACCCCTGCCCGGGCAGCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCA	P 8
G 2669	610 TGCGGCTACGTACTCAAGCCTGGGTGCATGTGCCAGGG	рь 29
2 398	550 TACCAGTCAGAGGGCGGATGCTGCAGCTGAACCGAGCCAAGTTCAACGCCAACGGTG	Db Qy
392	490 TCCAGCAACTACAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAA	Db 04
3 1 8 6	30 TACCTACGCTTCAACCAGCAGCAGCAGCTCTCCCCATCTACCCTCCTCCTACCGTGGGAA	da VQ
3 8	748 CAGGTGTCGTCCTTCAGCGAGACCAAGGCCCAGCAGTTCTGCAGCAGAAGCCGGCGCAGAAGCCCAGCAGATTCTGCAGCAGAAGCCCGGCGCAGA	da
242	688 GIGAAGIACACCAAGICCGIGGCCAACCCACCCAGATTCIGCAGCAGAAGCCGAAGCCGCGCGGGGGGGGGG	Q VQ
3 2369	310 GTGAAGTACACCAAGTCCGTGGCCACCCACGACGACGACGACGACGACGACGACGACGAC	. Q
3 3687	250 AGCCGAGGGGGAGACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTTGA 	g Qy
362	190 CTGAAGAAGGCGGCCAGCGTGGAGGAGGAGGAGATGAGGTCAGGACTCCCCGGGAGGCC 	dg QQ
356	30 AGACGCAATGGCCGCCTCGTCGTGGAAGCTTCTCCAGGCGCAAGAAGAAGAAGGCCAGCAGAAGAAGAAGGACAGCAG	p Q
350	448 GGGTGTGGGAGGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGCCAG	Дb
212	2081GAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGCCAGC	γQ
3447	GTCTGTGGTCATGAGAGCTACAGTGGCCTCTTTGCAGCAGTGTGGGAGCATCC	ф
2080		γQ
3387	328 GGTCCAGGCTGGGGAGAGCGGGCAGCAGTCGGAGCTGTTTGCTGTGGCGTGGCTGAGCG	뭥
2080	081	o V
32	20813268 GACAGCCAGCCTGTGGGGCCAGCCAAGGGCCCGAACCGAGGCAGGC	당 &
2080	208 A	? 문
J		

```
RESULT 3
ABA94696
ID ABAS
XX
AC ABAS
XX
DT 23-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                       5187
                                                                                                                                                                                                                                                                                        5127
                                                                                                                                                                                                                                                                                                                         3750
                                                                                                                                                                                                                                                                                                                                                           5067
                                                                                                                                                                                                                                                                                                                                                                                          3690
                                                                                                                                                                                                                                                                                                                                                                                                                             5007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4827
                                                                ABA94696 standard; cDNA; 2243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4348
   -APR-2002
                                                                                                                                                                    ATGTTCTCCGCCGGTAAGCCCCTCTTGCCC 3899
                                                                                                                                                                                                                                         CAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGTCAGGAGTAAATCCCCCC
                                                                                                                                                                                                                                                                                                           GGCATCCCCGAAAGGTCCCCCCGCTGGCCTGAGGGTGCCTGCAGGCAACCGGGGGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                          GCAGCCATTCGCCAGCAGCCCCGGGCCCGGGCTGACTCACTGGGGGGCCCCCTGCTGTGGC
                                                                                                                                                   ATGTTCTCCGCCGACACCCGCCCCCTCTCC 5276
                                                                                                                                                                                                                  CAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAAGCTGGAGGAGATCAGGAGTAAATCCCCC 5246
                                                                                                                                                                                                                                                                                    GGCATCCCCGAAAGGTCCCCCCCCCCCCTGAGGGTGCCTGCAGGCAACCGGGGGCCCTG
                                                                                                                                                                                                                                                                                                                                                       AGGCAGGGTCCAGGCGGTAGCGGCTCCATGTCCTCGGACTCCAGCAGCCCAGACAGCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                        CTGGACCCTCACGCTATCCCGGGGAGAGAGAGAGAGGCCCCCAAGGGTCCTGGGGCCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGGACCCTCACGCTATCCCGGGGAGAAGCAGAGAGGCCCCCAAGGGTCCTGGGGCCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCAGCCATTCGCCAGCAGCCCCGGGCCCGGGCTGACTCACTGGGGGCCCCCCTGCTGTGGC 3629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCGGGCCTGCTGGGATGGCCGCCACATGCATGAAGTGTGTGGTGGGATCCTGCGCCGGC 3509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCAGCTGCGGTGGCAGAGAAGAGCCCTGTGCGAGTGCGGCCCCCGCGTGTCCTGGACGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTACACGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCCGGGCCCCGGA 3329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCAGCGCCCGACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTCCCGGAGCTGGTCCTG 3269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGGAAGAGGCCTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAG 3089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCGGGCCTGCTGGGATGGCCGCCACATGCATGAAGTGTGTGGTGGGATCCTGCGCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGTACACGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCGGGGCCCGGA 4707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCAGCGCCCCGACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTCCCGGAGCTGGTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CATGCTGCTGGGCGGCCCCGGCCCGGCCCTCCGTTAGCCAGCGGACCCTGCGGCGCACG 4587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGAGGACGCTGGCCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGAGGACGCTGGCCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGG 3029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCAGCTGCGGTGGCAGAGAGAGCCCTGTGCGAGTGCGG-CCCTGCGTGTCCTGGACGGC 4826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATGCTGCTGGGCGCCCCGGCCCGGCCCTCCGTTAGCCAGCGGATCCTGCGGCGCACG 3209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCCGGCTCGCTGGACAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGAAGAGGCCTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAG
entry
                                                                                                                                                                                                                                                                                                                                                     5126
                                                                                                                                                                                                                                                   3869
                                                                                                                                                                                                                                                                                    5186
                                                                                                                                                                                                                                                                                                                                                                                       3749
                                                                                                                                                                                                                                                                                                                                                                                                                        5066
                                                                                                                                                                                                                                                                                                                                                                                                                                                         3689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4467
```

Ş

В Ś 밁 Ş 밁 Ş 뮹 Ş B Ś

밁 S

S

GACCCCATGCCTGGGGGTGAGCCTGGAGCCAGGGCAGTGCGGTGAGAGGCTCCGGAGAGA GGCCCTGAGGCTGAGGGGCTGAGTGCTCATTCCAGCCGCCTCGGGGAACCCCGGGCTGGGA GGCCCTGAGGCTGAGGGCTGAGTGCTCATTCCAGCCGCCTCGGGGAACCCGGGCTGGGA 171

뫄 Ś

щ

Query Match Best Local Similarity Matches 2162; Conserv

46.6%; Score 2161.4; ilarity 100.0%; Pred. No. 0; Conservative 0; Mismatches

1;

٥,

Gaps

0

60

24; Length

Sequence 2243

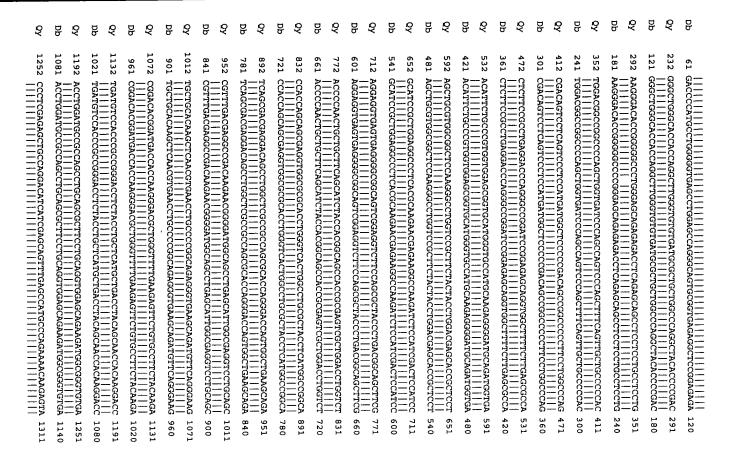
BP;

499 A; 678

C; 691 G; 375

T; 0 other; DB

```
Tang YT, Azımı
Tang YT, Azımı
Tang YT, Azımı
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-JUL-2000; 2000US-216801P.
07-JUL-2000; 2000US-216803P.
14-JUL-2000; 2000US-218233P.
21-JUL-2000; 2000US-220046P.
26-JUL-2000; 2000US-220739P.
04-AUG-2000; 2000US-222824P.
                                          and assess the toxicity of test compounds. The LMM polypeptides, modulators and antibodies are specifically useful for diagnosing, treating or preventing cancers (e.g. adenocarcinoma, lukemia, lymphoma, melanoma or sarcoma), neurological disorders (e.g. epilepsy, stroke, cerebral neoplasms, Alzheimer's disease or Pick's disease), autoimmune/inflammatory disorders (e.g. AIDS, Addison's disease, allergies, asthma, or atherosclerosis), gastrointestinal disorders (e.g. dysphagia, peptide esophagitis, gastritis, gastric carcinoma, anorexia or nausea), skin disorders (e.g. hypertension, arterial dissections, vascular tumours, or thrombolysis). The present sequence represents a human LMM polynucleotide
                                                                                                                                                                                                                               The invention provides human lipid metabolism molecule (LMM) polypeptides and polynucleotides. The LMM polypeptides can be expressed by standard recombinant methodology. The LMM polypeptides are useful for diagnosing or treating a condition or disease associated with the expression of LMM, or screening for compounds that specifically bind to or modulate the activity or expression of LMM. They are also used to generate antibodies
                                                                                                                                                                                                                                                                                                                                                         Claim
                                                                                                                                                                                                                                                                                                                                                                                           cancers, and neurological , autoin skin and cardiovascular disorders
                                                                                                                                                                                                                                                                                                                                                                                                     Lipid metabolism molecules useful in diagnosing, treating or preventing cancers, and neurological, autoimmune/inflammatory, gastrointestinal,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-JUL-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           anticonvulsant;
cardiovascular;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200204490-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cancer; gene therapy; protein therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (INCY-) INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lipid metabolism molecule; LMM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human lipid metabolism molecule (LMM) cDNA (ID:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2002-164631/21.
                                                                                                                                                                                                                                                                                                                                                       5; Page 123-124; 128pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Azimzai Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DAS D,
AR, Walia NK,
Patterson C, Lal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2001WO-US21432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    immunosuppressive; anti-inflammatory; dermatological;
antiHIV; antiemetic; antiallergic; hypertensive; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /product= "LMM"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Thornton M, Lu DAM,
Khan FA, Lu Y, Yao
I P, Ramkumar J, Ng
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cytostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nootropic; neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AM, Tribouley CM;
Yao MG, Hafalia
Nguyen DB, Baugn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hafalia AJA;
                                               polynucleotide
```



RESULT 4 ABL60537 밁

2161

AGA

22/2 AGA 22/4	, k
2012 2014	
2212 AGGAGGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCCAGGGGCGAGCGA	v N
2152 TGGGAAGCTTCTCCAGGCGCAAGAAGAAGGAGCAGCAAGCTGAAGAAGGCGGCCAGCGTCG 2211	
981 AAGAGGACGTGGAGTCTGGGGAAGGATGCCGGGGCCAGCAGACGCAATGGCCGGCC	н ;
092 AAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGCCAGCAGCAAGCGCAATGGCCGCCTCGTCG 215	
2032 ACAACTTCTCCGTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGAGCTG 2091	- N
861 CTAAGAGGAAACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCA 192	Db 1
ATGACTGCAAGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAA	. н
912 ATGACTGCAAGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAAACACTG 197	Qy 1:
1852 TCAGCGAGGATGCGGAAGGCGAAGGCGACGTGTCTGATGAGAACAGTGCTGATGAGATTGAGG 1911	
681 CCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACA 174	<u> </u>
85	
6	μ
732 ACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACACTC	· -
1672 TGTCCATCGAAAACCACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCAGTATCTGACTG 1731 	Qy 16
1501 AAGACGTCATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCC 1560	Db 15
612 AAG	µ
4	<u> </u>
.552 GGCCCGACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTT	L
4	
321 T	
432 TCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGG 149	<u> </u>
61 TCAACCCTGAGCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTT	- H
372 TCAACCCTGAGCACCATGTGCACCACGAGGACATGACGCAGCCGCTGAGCCACTACTTC	· •
201 AGGGGCTGCTGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATC	, ,
312 AGGGGCTGCTGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACAT	י
1141 CCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTA 1200	

```
CONTRACTOR OF THE PROPERTY OF 
                                                                                                                                                                                                                                                                Query Match
Best Local (
                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to human lipid metabolism enzymes (LMEs) and encoding polynucleotides. The LMEs can be expressed by standard recombinant technology. The LME polypeptides, polynucleotides and modulators may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate LME expression such as cancer (e.g. myeloma, sarcoma and breast cancer), neurological disorders (e.g. Parkinson's, Altheimer's and multiple sclerosis), microbial infections (e.g. Creutzfeld-Jakob disease and Acquired Immune deficiency syndrome (ALDS)) and/or cardiovascular disorders (e.g. cardiomyopathy, angina
                                                                                                                                                                                                                                                                                                                                                  Sequence 3433 BP; 1042 A; 741 C; 842 G; 808 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lipid Metabolism Enzymes and nucleic acids, useful for preventing, diagnosing and treating e.g. cancer, Alzheimer's disease and Creutzfeld-Jakob disease -
                                                                                                                                                                                                                                                                                                                                                                                                                                           pectoris and mitral valve prolapse). The present sequence represents the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 5; Page 121-122; 127pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0$-OCT-2000; 2000US-238388P.
13-OCT-2000; 2000US-249615P.
0$-NOV-2000; 2000US-245719P.
08-NOV-2000; 2000US-247503P.
17-NOV-2000; 2000US-249503P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; lipid metabolism enzyme; LME; cytostatic; neuroprotective; gene; nootropic; cerebroprotective; antiparkinsonian; antialzheimers; vaccine; antisclerotic; antimicrobial; anti-AIDS; cardiovascular; antianginal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Harland L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200229036-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human lipid metabolism enzyme (LME)-1 cDNA (clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABL60537;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABL60537 standard; cDNA; 3433 BP
      386
                                                             545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INCY-) INCYTE GENOMICS INC.
                                                                                                                                                                                 485
                                                                                                                       26
                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PSDB; ABB08001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -OCT-2001; 2001WO-US31302
                                                      GGTGGAGCGGTGCATGGCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGG
TGTTGAAAGATGCATGAGTGTGATGCAGTCCGGGACACAGATGATCAAGCTGAAACGTGG
                                                                                                             GGAAAAAAGGAACTGTGTGCAGTACCGCAGGCATTTTCTGGTGGACAACAGTGTGTTTCA 385
                                                                                                                                                                       GGACCCAGGGCCGGATCCGGAGAGCAGGTGGCTTTTCTTGAGCGCCCAACATTCTGCCCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2002-315862/35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ņ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tribouley CM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Yao MG,
                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                encoding cDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Arvizu C, Das
Yao MG, Lu Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein therapy; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product= "lipid metabolism
/note= "LME-1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  *tag=
                                                                                                                                                                                                                                                                24.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     മ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D, Griffin JA, Baughn
Elliott VS, Thangavelu
                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                Score 1111.2;
Pred. No. 4.4e-
                                                                                                                                                                                                                                 Mismatches 878; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Baughn MR,
angavelu K,
                                                                                                                                                                                                                                                                                        DB 24; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          enzyme"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Id:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7472210CB1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ding L;
Ramkumar
                                                                                                                                                                                                                                 23;
                                                                                                                                                                                                                                                                                            3433;
                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            J
                                                      604
                                                                                                                                                                       544
                                                                                                                                                                                                                                 5
```

밁 Ş 묽 Ş

```
밁
                                                                Š
                                                                                                                                    뮍
                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                1346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1385
   1466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1106 TCTTGACATCATAAAGAAGTTTGAAGTTTCAGAÁGÁÁAAATAAGGTGAAAAATGTTCTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1085 CCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1046 AGAACTGGCTCAGTTTTTGAAGGTGGAGCAAAAGATGAATAATGTGACAACGGACTATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1205 CAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1145 CCGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        605
   GACCATCAACAAGCATGCCTTTGTGAAGAATGAGTTTCCTGTTATATTGTCTATCGAGAA
                                                            AACCATCAACAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAA
                                                                                                                                                                                                     GCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGA
                                                                                                                                                                                                                                                                                                                                         gerccrecaegerecceccices en a consecue de la consecu
                                                                                                                                                                                                                                                                                                                                                                                                             CAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCA 1444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CATAGAAGGCTTCACGAACTTCATGCGTAGTCCTGCCTGTGACATATTTAACCCATTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCA 1384
                                                                                                                                                                                                                                                                         GGTGCTGCAAGAGGGCTGTCGCTGTGTGGAAGTTGACTGTTGGGATGGCCCAGATGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCATGAAGTGTACCAAGACATGGATCAGCCCCTCTGCAACTACTACATTGCTTCCTCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGAACACGGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAATCAGGGAACTTTGACATTTGAAGAGTTCTGTGTTTTTTACAAAATGATGTCTTTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAATGTTAATCTGCCCCGAAGAAAAGTCAGACAAATGTTTCAGGAAGCCGACACAGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGATAAGAATGGTGACGGCTTGCTGAATATTGAAGAGATACATCAGCTGATGCATAAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCCTCTAGGAAGAGTGAGAAGGCAAAAATACTTATTGATTCCATTTACAAAGTGACTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTCCAAGGCCTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCCCTTGCCAAAAGGCAGAGGACCCATGACCAATGGGTGAAGCAGACCTTTGAGGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGCCTGGCTCGCCGCCAGCGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTCACCATCTACCATGGCAACCACATGGAGTCCCTGGACCTCATCACCTCCAACCCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGCCGGCAGTCTGAAATATTCCACAGACAAGCTGAGGGGAACTTCGACCCCAGCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACCAAAGGGCTTGTCCGCCTCTTTTACCTGGATGAGCACCGGGACACGCCTCCGATGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              geregecececaccregercacregecrececracercaregecegecareagegaceaega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1684
1525
                                                                                                                                1465
                                                                                                                                                                                                                                                                                                                                                                                                             1345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           784
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                망
                                                                                                                                                                                    á
                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                            δ
뭐
                                  Ş
                                                                          В
                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2119
                                                                                                                                                                                                                                                                                                                                              2452
                                                                                                                                                                                                                                                                                                                                                                                                                        2392
                                                                                                                                                      2416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTCAAGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAAACTGGACCTGTCATCTGTTGATACAGGGGAGTGCAAGCAGCTTCCAAGCCCTCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCACTGCAGTATCCAGCAGCAAAGGAAGATTGCTCAGTACCTGAAAGGAATATTCGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGAGGAAGGGAAGTTTCCGATGAGGÁCAGTGCAGÁTGAAATTGAAGACGÁGTGCÁAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTTGAAAGGCAAAATTCTAGTGAAGGGTAAGAAGTTGCCTTATCACCTTGGGGATGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGAAAACCATGAAGCTCTGCCGAGAACTCTCTGATTTGGTTGTACACAAACTCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACCAAGTCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGACACACAGCAGAGTACTGGCAAGGAGGGTGGCCAGCTGTACAGATTGGGTCGCCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATG-----AGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGGGGGCGACCCGGCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGAGTCCAGATGTAAAGGAAAGTGGAAAAGAAATCACATGGACGATCCCTCATGACCAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGAGT-CTGGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGCGGGCACT----ACTGAAGGCCACGCATGAAGGCTTAAATGCACACCTGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCCAACAACTTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAAGCTCCATTATAGTAATGGGACCACTGAGCATCAGGTGGAATCTTTCATAAGGAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C---CTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                          CCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGCTCAGGACATTG----TGGATGACGGAACCACAGGAAATGTGTTATCATTCAGTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCACCCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTGGAAAACATAAGAAAACTACAAAATCACGGTCTAAATCTTACAGTACTGATGATGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <u>ACTGGAGTCACTGTTAAAAGAATCTCAAATTCGAGATAAAGAAGATCCTGATAGTTTCAC</u>
                                                                                                                                                                                                                                                          CCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCGGATGC 2571
                                                                                                                                                                                                                                                                                                                                        AGCTCTCCCGCATCTACCCCTCCTCCTACCGTGTGGACTCCAGCAACTACAACCCCGCAGC
    AAAAGCAGCTCATCCTGAAAGTTATCAGTGGACAGCAACTCCCCAAACCTCCAGACTCCA
                                      AGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACTCCA
                                                                                                                  GGTGCATGTGCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCA
                                                                                                                                                    TGCAGTTAAACCGAGCCAAATTCAAGGCAAATGGCAATTGTGGCTATGTCCTCAAACCCC
                                                                                                                                                                                          TGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTG
                                                                                                                                                                                                                                  CCTACTGGAACGCAGGCTGCCAGCTAGTGGCACTGAATTATCAATCTGAAGGACGAATGA
                                                                                                                                                                                                                                                                                                          AACTCACGAGGATTTACCCCTCTGCCTACCGCATTGATTCCAGTAACTTCAACCCTCTCC
                                                                                                                                                                                                                                                                                                                                                                                    CAAGAGCACATCAGGTTGTTCAGCAAAAATCAGAGCAGTTCATGATTTATAATCAAAAGC
                                                                              AGCAAATGTGCAAAGGTACTTTCAACCCTTTCTCTGGTGACCCTCTTCCTGCCAACCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1885
                                                                                  2535
                                                                                                                                                            2475
                                                                                                                                                                                                                                                                                                                2355
                                                                                                                                                                                                                                                                                                                                                    2511
                                                                                                                                                                                                                                                                                                                                                                                          2295
          2595
```

δ

TGCTGGGGGACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCC

imaging of

sites expressing (II). (I)

and

(II) are useful tor

polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polymuleocides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques to restore normal activity of (II) or to treat disease states involving (II) (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical in the second of the second o

The invention relates to isolated polynucleotide (I) and

```
ARSULT 5
ARASTRES ARA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3052
                                                                                                                                                                                                                                                                                                                                                                                                                              New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               31-MAR-2000;
23-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-MAR-2001; 2001WO-US08631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; chromosome mapping; gene mapping; gene therapy; food supplement; medical imaging; diagnostic; genetic of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA encoding novel human diagnostic protein #13660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAS77856
                                                                                                                                                                                                                                                                                                                                               Claim 1; SEQ ID No 13660; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGTAGATTGTTGTAAAGATCAAACCCGTGTGGTAGATGACAATGGATTTAACCCTGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGTGGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTTTGGAGATCGAGGCGAGATCATTGACCCTTTTGTTGAAGTTGAAATTATTGGATTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGAGGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTTGGTCCGCTTCCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TACACATAACCATCAATGAAATCTATGGAAAG 2927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCATGTGGCTGTCAGTGACATCAGCGGTAAG 3083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTTAGTGCCTGGCTACCGGCATGTCTATTTGGAAGGACTGACAGAAGCATCCATATTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTGGGATCACGATCCCATTGGACGAGACTTTGTTGGACAAAGAACTGTGACCTTCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGGAAGAAACACTGACATTTACAGTACACATGCCAGAAATAGCTTTGGTTCGGTTCCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001-639362/73.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABG13669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0540217.
2000US-0649167.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          forensic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2775
```

```
뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SSSSSSSSSSXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
Matches 1255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         disorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and amino acid sequences. AAS44197-AAS94564 represent novel human diagnostic coding sequences of the invention.

Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                              1749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1329
                                                                                                                                                                                                                        1809
                                                                                                                                                                                                                                                                                                                                                                                               1689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1629
                                                                                                                                   6981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1149 GACCTCTACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGC 1208
                                                                                                                                                                             661
                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                       541
                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     209
      81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ftp.wipo.int/pub/published_pct_sequences.
CTCCATTATAGTAATGGGACCACTGAGCATCAGGTGGAATCTTTCATAAGGAAAAAACTG
                                        CTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTG
                                                                                                              GAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTC---
                                                                                                                                                                                                      AAGGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAG
                                                                                                                                                                                                                                                                                                 CTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTC 1808
                                                                                                                                                                                                                                                                                                                                                  TGCAGTATCCAGCAAAAGGAAGATTGCTCAGTACCTGAAAGGAATATTCGGAGACAAA
                                                                                                                                                                                                                                                                                                                                                                                         GTAGTACATCATGGTTACACTCTCACTTCAAAAATTCTCTTCAGAGATGTTGTGGAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGCAGGCTGGCTGCGCTGCGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCC
                                                                                     GAAGGGGAAGTTTCCGATGAGGACAGTGCAGATGAAATTGAAGACGAGTGCAAATTCAAG
                                                                                                                                                                         AAAGGCAAAATTCTAGTGAAGGGTAAGAAGTTGCCTTATCACCTTGGGGATGATGCAGAG
                                                                                                                                                                                                                                                            CTGGACCTGTCATCTGTTGATACAGGGGAGTGCAAGCAGCTTCCAAAGCCCTCAAAGTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCAACAAGCATGCCTTTGTGAAGAATGAGTTTCCTGTTATATATTGTCTATCGAGAATCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAGTGTACCAAGACATGGATCAGCCCCCTCTGCAACTACTACATTGCTTCCTCACAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAAC 1448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACATCATAAAGAAGTTTTGAAGTTTTCAGAAGAAAATAAGGTGAAAAATGTTCTTTGGCATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGCAAGAGGGCTGTCGCTGTGGGAAGTTGACTGTTGGGATGGCCCAGATGGAGAGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAAGGCTTCACGAACTTCATGCGTAGTCCTGCCTGTGACATATTTAACCCATTGCACCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGGCTGCTGGGCATT 1328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCAC 1388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGGCTCAGTTTTTGAAGGTGGAGCAAAAGATGAATAATGTGACAACGGACTATTGTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BP; 1659 A; 1214 C; 1203 G; 1475 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 780;
Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches 670;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .2e-137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 5551;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
840
                                                                                                                                                                                                                    1868
                                                                                                                                                                                                                                                               660
                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
```

밁 8 밁 Ş 밁 S 밁 Ş В Ś 밁 δ 밁 Ş 밁 Ş В Ş 밁 Ş 밁 Ş

Ś

3056

TGTGGCTGTCAGTGACATCAGCGGTAAG

```
밁
                                 8
                                                                         뮹
                                                                                                       Ş
                                                                                                                                                밁
                                                                                                                                                                                Ş
                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                           Ó
                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
   1851
                                                                           1791
                                                                                                                                                                                  2876
                                                                                                                                                                                                                      1671
                                                                                                                                                                                                                                                         2816
                                                                                                                                                                                                                                                                                             1611
                                                                                                                                                                                                                                                                                                                                                                   1551
                                                                                                                                                                                                                                                                                                                                                                                                      2696
                                                                                                                                                                                                                                                                                                                                                                                                                                      1491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1986 GATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCCAACAACTTCTCCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 954
                               GATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCA
                                                                                               GGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCAT
                                                                                                                                                                 GGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTTGGTCGTCTTG
                                                                                                                                                                                                                                                                                                                GGGGGACCGTGGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGT
                                                                     GGATCACGATCCCATTGGACGAGACTTTGTTGGACAAAGAACTGTGACCTTCAGCAGCTT
                                                                                                                                            AGAAACACTGACATTTACAGTACACATGCCAGAAATAGCTTTGGTTCGGTTCCTTGTGTG
                                                                                                                                                                                                                  AGATTGTTGTAAAGATCAAACCCGTGTGGTAGATGACAATGGATTTAACCCTGTGTGGGA
                                                                                                                                                                                                                                                    GGACTGCAGCAGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGA
                                                                                                                                                                                                                                                                                         TGGAGATCGAGGCGAGATCATTGACCCTTTTGTTGAAGTTGAAATTATTGGATTGCCAGT
                                                                                                                                                                                                                                                                                                                                                               GCAGCTCATCCTGAAAGTTATCAGTGGACAGCAACTCCCCAAACCTCCAGACTCCATGTT
                                                                                                                                                                                                                                                                                                                                                                                           GCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACTCCATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                      AATGTGCAAAGGTACTTTCAACCCTTTCTCTGGTGACCCTCTTCCTGCCAACCCCAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CATGTGCCAGGGCGTGTTCAACCCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTTAAACCGAGCCAAATTCAAGGCAAATGGCAATTGTGGCTATGTCCTCAAACCCCCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGAACGCAGGCTGCCAGCTAGTGGCACTGAATTATCAATCTGAAGGACGAATGATGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGGCGGATGCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACGAGGATTTACCCCTCTGCCTACCGCATTGATTCCAGTAACTTCAACCCTCTCCCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCACATCAGGTTGTTCAGCAAAAATCAGAGCAGTTCATGATTTATAATCAAAAGCAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCAGGACATTG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGACCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACCATGAAGCTCTGCCGAGAACTCTCTGATTTGGTTGTGTACACAAACTCCGTGGCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACCCAAGTCCGTGGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACACAGCAGAGTACTGGCAAGGAGGGTGGCCAGCTGTACAGATTGGGTCGCCGAAGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  T-CTGGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCTTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGACGACGTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGTCACTGTTAAAAGAATCTCAAATTCGAGATAAAGAAGATCCTGATAGTTTCACAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCCAGATGTAAAGGAAAGTGGAAAGAAATCACATGGACGATCCCTCATGACCAACTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -TGGATGACGGAACCACAGGAAATGTGTTATCATTCAGTGAAACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -ACTGAAGGCCACGCATGAAGGCTTAAATGCACACCTGAAGCAGAG
1910
                                   3055
                                                                       1850
                                                                                                                                                                                                                                                                                         1670
                                                                                                                                                                                                                                                                                                                                                               1610
                                                                                                                                                                                                                                                                                                                                                                                                                                      1550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1370
                                                                                                                                                                                                                                                                                                                           2815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   953
```

```
AAD31081 standard; cDNA; 5551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PI-PIC-like enzyme; chromosome 3; asthma; cancer; central nervous s CNS disorder; Parkinson's disease; dementia; COPD; protein therapy; chronic obstructive pulmonary disease; gene therapy; vaccine; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human PI-PLC-like enzyme encoding partial cDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAD31081;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       04-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human;
                                                                                                                                                                                                            e.g. asthma, cancer, central nervous system (CNS) disorder (e.g. exhims) and chronic obstructive pulmonary disease (COPD). The polynucleotide and polypeptide may be used to treat disorders associated with decreased PI-PLC-like enzyme expression by
                                                                                                                                                                                                                                                                                                                                                                                                                                                             phospholipase C-like enzymes, useful for preventing, diagnosing treating e.g. asthma, cancer, a CNS disorder or chronic obstruct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27-SEP-2000; 2000US-235552P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24-SEP-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200226996-A2.
                                                                                                                                                                                                                                                                                polynucleotide may be used in the prevention, diagnosis a treatment of diseases associated with enzyme dysfunction,
                                                                                                                                                                                                                                                                                                                       phosphatidylinositol-specific phospholipase C-like enzyme (PI-PLC-like enzyme). Human PI-PLC-like enzyme gene is located chromosome 3. The PI-PLC-like enzyme polypeptide and
                                                                                                                                                                                                                                                                                                                                                                            The invention relates to polynucleotide encoding human
                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; Fig 1; 125pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Isolated polynucleotides encoding human phosphatidylinositol-specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P-PSDB; AAE14673.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2002-372128/40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (FARB ) BAYER AG
                  expression and activity. The anti-PI-PLC-like enzyme antibodies antagonists may be used to down-regulate expression and activity the enzyme and as diagnostic agents for detecting the presence of
                                                  as DNA probes in diagnostic assays to detect and quantitate the presence of similar nucleic acids in samples. The PI-PLC-like enzymes may also be used as antigens in the production of antibodies and in assays to identify modulators of PI-PLC-like enzyme expression and activity. The anti-PI-PLC-like enzyme antibodies and
                                                                                                                                                        rectifying mutations or deletions in a patient's genome that affect activity of PI-PLC-like enzymes, by expressing inactive proteins or supplement the patients own production of PI-PLC-like enzymes.
 PI-PLC-like enzyme in samples.
                                                                                                                                         polynucleotide and its complements may also be used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         phosphatidylinositol-specific phospholipase C-like enzyme;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2001WO-EP11012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 like enzyme'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   product= "Phosphatidylinositol-specific phospholipase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Does not include start codon"
     The present
   tecting the presence sequence is human
                                                                                                                                                                                                                                                                                                            diagnosis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          obstructive
                                                                                                                                                                                        or to
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 1255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1149 GACCTCTACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGC 1208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 5551 BP; 1659 A; 1214 C; 1203 G; 1475 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    partial cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       phosphatidylinositol-specific phospholipase C-like enzyme encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1269 GACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGGCTGCTGGGCATT 1328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1629
2046 TCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 GACCTTTATTTGTTACTTTTGAGCTACAGTGACAAGAAGATCACCTAACTGTGGAAGAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGGCTCAGTTTTTGAAGGTGGAGCAAAAGATGAATAATGTGACAACGGACTATTGTCTT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAG 1268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAAGTGTACCAAGACATGGATCAGCCCCTCTGCAACTACTACATTGCTTCCTCTCACAAT 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAAC 1448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCAC 1388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACATCATAAAGAAGTTTGAAGTTTCAGAAGAAAATAAGGTGAAAAATGTTCTTGGCATA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGCAAGAGGGCTGTGTGTGGAAGTTGACTGTTGGGATGGCCCAGATGGAGAGCCA 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGCAGGCTGGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCC 1568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGTGGACATGTATGCTTGGGTC 1508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTAGTACATCATGGTTACACTCTCACTTCAAAAATTCTCTTCAGAGATGTTGTGGAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                        стсантесеватесноскае са тема постотна представана с поставана с постава с постава с поставана с постава с пост
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u> АЛОСОССАВОЕТССТССТОВАВОЕСЕВАВАВОЕТСССАВССВАВСАТСАВСЕВАВСАТОССВАВ</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ĊTGGACCTGTCATCTGTTGATACAGGGGAGTGCAAGCAGCTTCCAAGCCCTCAAAGTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                стедалсствтся тся от выпуска поставления поставления в пос
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCAGTATCCAGCAGCAAAGGAAGATTGCTCAGTACCTGAAAGGAATATTCGGAGACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCAACAAGCATGCCTTTGTGAAGAATGAGTTTCCTGTTATATTGTCTATCGAGAATCAC
                                                                                                          GAGTCACTGTTAAAAGAATCTCAAATTCGAGATAAAGAAGATCCTGATAGTTTCACAGTG
                                                                                                                                                                                                         GATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCCAACAACTTCTCCGTC 2045
                                                                                                                                                                                                                                                                                                                         CTCCATTATAGTAATGGGACCACTGAGCATCAGGTGGAATCTTTCATAAGGAAAAAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAAGGGGAAGTTTCCGATGAGGACAGTGCAGATGAAATTGAAGACGAGTGCAAATTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAAGGCAAAATTCTAGTGAAGGGTAAGAAGTTGCCTTATCACCTTGGGGATGATGCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PTCACGAACTTCATGCGTAGTCCTGCCTGTGACATATTTAACCCATTGCACCAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches 670;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 780; DB 24;
Pred. No. 1.2e-137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 5551;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1688
```

901 CGGGCACT-----ACTGAAGGCCACGCATGAAGGCTTAAATGCACACCTGAAGCAGAG

```
1791
                                                                                                             1851
                                                                                                                                                                                                                                                                       2936
                                                                                                                                                                                                                                                                                                                             1731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1$51
                                                                                                                                                                                                                                                                                                                                                                                  2876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1014 AAAACATAAGAAAACTACAAAATCACGGTCTAAATCTTACAGTACTGATGATGAGGAAGA 1073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          954
CATAACCATCAATGAAATCTATGGAAAG 1938
                                               TGTGGCTGTCAGTGACATCAGCGGTAAG 3083
                                                                                                  AGTGCCTGGCTACCGGCATGTCTATTTGGAAGGACTGACAGAAGCATCCATATTTGTACA
                                                                                                                                               GATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCA 3055
                                                                                                                                                                                                       GGATCACGATCCCATTGGACGAGACTTTGTTGGACAAAGAACTGTGACCTTCAGCAGCTT
                                                                                                                                                                                                                                                      GGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCAT
                                                                                                                                                                                                                                                                                                                                                   GGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGGGCTGGTCGGCTTCCTCGTCTG
                                                                                                                                                                                                                                                                                                                 AGAAACACTGACATTTACAGTACACATGCCAGAAATAGCTTTGGTTCGGTTCCTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                    AGATTGTTGTAAAGATCAAACCCCGTGTGGTAGATGACAATGGATTTAACCCCTGTGTGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGAGATCGAGGCGAGATCATTGACCCTTTTGTTGAAGTTGAAATTATTGGATTGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAGCTCATCCTGAAAGTTATCAGTGGACAGCAACTCCCCAAACCTCCAGACTCCATGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGACTCCATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AATGTGCAAAGGTACTTTCAACCCTTTCTCTGGTGACCCTCTTCCTGCCAACCCCAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 eggegaccerregegagarcarceaccerrreregageregagarcarregecrecer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CATGTGCCAGGGCGTGTTCAACCCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAA 2695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTTAAACCGAGCCAAATTCAAGGCAAATGGCAATTGTGGCTATGTCCTCAAACCCCAGCA 1490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTGAACCGAGCCAAGTTCAGCGCCAACGCTGGCTGCCGCTACGTACTCAAGCCTGGGTG 2635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGGCGGATGCTGCA 2575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACGAGGATTTACCCCTCTGCCTACCGCATTGATTCCAGTAACTTCAACCCTCTCCCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCACATCAGGTTGTTCAGCAAAAATCAGAGCAGTTCATGATTTATAATCAAAAGCAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCAGGACATTG---TGGATGACGGAACCACAGGAAATGTGTTATCATTCAGTGAAACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGACCAA 2395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACACAGCAGAGTACTGGCAAGGAGGGTGGCCAGCTGTACAGATTGGGTCGCCGAAGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGGAACGCAGGCTGCCAGCTAGTGGCACTGAATTATCAATCTGAAGGACGAATGATGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AACCATGAAGCTCTGCCGAGAACTCTCTGATTTGGTTGTGTACACAAACTCCGTGGCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACCAAGTCCGTGGCCAC 2335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           T-CTGGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCTTCTC 2164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGGCGCAAGAAGAAGGCAAGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAGATG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCCAGATGTAAAGGAAAGTGGAAAGAAATCACATGGACGATCCCTCATGACCAACTTTGG 1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1850
                                                                                                                                                                                                                                                                                                                                                                                                                      1730
                                                                                                                                                                                                                                                                                                                                                                 2935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1250
```

RESULT 7

AAH17609 standard;

cDNA; 1977

밁 Ş 밁 Ş

61

Matches Query Match Best Local

987;

Conservative

0

Similarity

11.8%;

Score 545.2; Pred. No. 1.8 Mismatches

.8e-93 DB 22;

Length

1977; 29;

588; Indels

Gaps

9

CTATCGAGAATCACTGCAGTATCCAGCAGCAAAGGAAGATTGCTCAGTACCTGAAAGGAA 60

1735 TCCTTGGGGACCAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCCCCT 1794

TATTCGGAGACAAACTGGACCTGTCATCTGTTGATACAGGGGAGTGCAAGCAGCTTCCAA 120

밁 Ś 밁 Ş 밁 Ş В 8

δ 망

밁 Ş 밁 Ś 밁 Ş 뭐 á 밁 Ş 망 Š 뫄 Ş ₽ Ş D, Ş B Ś 뮍 Ś 밁

```
CC full-length cDNAs defined in the specification. Where a primer set comprises: (a) an oligo-dT primer and an oligonucleotide complementary to the complementary strand of a polynucleotide which comprises one of the 5602 nucleotide sequences defined in the specification, where the coligonucleotide comprises at least 15 nucleotides; or (b) a combination of an oligonucleotide comprises at polynucleotide which comprises a 5'-end complementary strand of a polynucleotide which comprises a 5'-end complementary strand of a polynucleotide which comprises a 5'-end complementary to a polynucleotide which comprises a 5'-end complementary to a polynucleotide which comprises a 3'-end sequence, where the cologonucleotide which comprises a 3'-end sequence, where the cologonucleotide comprises a 3'-end sequence, where the complementary to a complementary t
       Sequence 1977 BP; 634 A; 429 C; 457 G; 457 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 8; SEQ ID 17123; 2537pp + CD ROM; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Primer sets for synthesizing polynucleotides, particularly the 5602 full-length cDNAs defined in the specification, and for the detection and/or diagnosis of the abnormality of the proteins encoded by the full-length cDNAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-318749/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11-JAN-2000; 2000JP-0118776
02-MAY-2000; 2000JP-0183767
09-JUN-2000; 2000JP-0241899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (HELI-) HELIX RES INST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29-JUL-1999;
27-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-JUL-2000; 2000EP-0116126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EP1074617-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human cDNA sequence SEQ ID NO:17123.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Isogai T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sugiyama
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99JP-0300253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99JP-0248036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      detection; diagnosis; antisense therapy; gene therapy; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nishikawa T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wakamatsu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hayashi K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nagai K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Saito K,
C, Otsuki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Yamamoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         detection by the
```

Ş 밁 Ś В Ś

```
1795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2262
                                                   1131
                                                                                                                                                    1071
                                                                                                                                                                                                                                                        1011
                                                                                                                                                                                                                                                                                                           2682
                                                                                                                                                                                                                                                                                                                                                                                                               2622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                               951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCCTCAAAGTTTGAAAGGCAAAATTCTAGTGAAGGGTAAGAAGTTGCCTTATCACCTTG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCCACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGGAAGAAGCTCCCAGCCAACATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGATGATGCAGAGGGAAGGGTTTCCGATGAGGACAGTGCAGATGAAATTGAAGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCCTGAACTACCAGTCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACCAGCAGCAGCTCTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGTCGCCGAAGGAAAACCATGAAGCTCTGCCGAGAACTCTCTGATTTGGTTGTGTACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGGCCCTCTCTGACCTGGTGAAGTACACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATGATGAGGAAGACACACAGCAGAGTACTGGCAAGGAGGGTGGCCAGCTGTACAGATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGGAGGAGATGAGGGTCAGGACTCCCC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGACCAACTTTGGAAAACATAAGAAAACTACAAAATCACGGTCTAAATCTTACAGTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTGGGAAGCTTCTCCAGGCGCAAGAAGAAGGCCAGCCAAGCTGAAGAAGGCGGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGAGGACGTGGAGTCTGG-GGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCTCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACAACTTCTCCGTCTCCACACTGTCCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTG 2091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TAAGGAAAAACTGGAGTCACTGTTAAAAGAATCTCAAATTCGAGATAAAGAAGATCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTAAGAGGAAACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGCAAATTCAAGCTCCATTATAGTAATGGGACCACTGAGCATCAGGTGGAATCTTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTGCAAGCTC---CTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGGCGGATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCAGCGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGTCCGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCC
AACCCCACCTGGGAGAGCCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTC
                                                                                                                                                    CCAGACTCCATGTTTGGAGATCGAGGCGAGATCATTGACCCTTTTGTTGAAGTTGAAATT
                                                                                                                                                                                                     CGCGACTCCATGCTGGGGGACCGTGGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATC
                                                                                                                                                                                                                                                        GCCAACCCCAAAAAGCAGCTCATCCTGAAAGTTATCAGTGGACAGCAACTCCCCAAACCT
                                                                                                                                                                                                                                                                                                         GGGCAGCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCG
                                                                                                                                                                                                                                                                                                                                                               CTCAAACCCCAGCAAATGTGCAAAGGTACTTTCAACCCTTTCTCTGGTGACCCTCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                               CTCAAGCCTGGGTGCATGTGCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGACGAATGATGCAGTTAAACCGAGCCAAATTCAAGGCAAATGGCAATTGTGGCTATGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACCCTCTCCCCTACTGGAACGCAGGCTGCCAGCTAGTGGCACTGAATTATCAATCTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AATCAAAAGCAACTCACGAGGATTTACCCCTCTGCCTACCGCATTGATTCCAGTAACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCAGTGAAACAAGAGCACATCAGGTTGTTCAGCAAAAATCAGAGCAGTTCATGATTTAT
                                                                                                 ATTGGGCTCCCTGTGGACTGCAGCAGGGAGCAGACCGCGTGGTGGACGACAACGGGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rggccgctcaggacattg---tggatgacggaaccacaggaaatgtgttatca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----ACTGAAGGCCACGCATGAAGGCTTAAATGCA 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -GGGAGGCCAGAGCCGAGGGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1854
                                                                                                                                                                                                                                                                                                                 2741
                                                                                                                                                                                                                                                                                                                                                                                                                     2681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2501
        2921
                                                                                                         2861
                                                                                                                                                                                                                                                                                                                                                                    1010
                                                        1190
```

ð

g

5 밁

밁 Ś 밁 5 В δ 밁

δ 밁 5 g ð

S 밁 S 밁 Ś 뮍 5 g Ś В Ś 밁 Ó 밁 Ś 멍

```
ABK7157 8
ABK7157 8
ABK7157 8
ABK7157 AK
AK ABK7
AK AB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; dithp; diagnostic and therapeutic polynucleotide; gene; ss; bone; cell proliferative disorder; cancer; tumour; autoimmune disorder; brain; inflammatory disorder; wiral infection; bacterial infection; seizure; fungal infection; parasitic infections; developmental disorder; breast; endocrine disorder; metabolic disorder; neurological disorder; cervix; gastrointestinal disorder; transport disorder; gene therapy; kidney; adrenal gland; bone marrow; lung; ovary; pancreas; prostate; spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human dithp polynucleotide #38.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABK71572;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABK71572 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCAAAGGCAGGAAAAAGAGCAAAATGGGCTTCCAAGAAATGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGGATGGAAGAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTCCCGGAGCTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTAC-----GGAAGCGATCCATTGGAGATAGAATTCTGCGACGCACAGCTAGCGCCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGAAGGGACTGTTCAATAAGAATCCTAGGCACAGTTCTTCAGAAAACAATTCCCATTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCTTCAGCAGCTTAGTGCCTGGCTACCGGCATGTCTATTTGGAAGGACTGACAGAAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGTTCCTTGTGTGGGATCACGATCCCATTGGACGAGACTTTGTTGGACAAAGAACTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCTTCCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGCCCCGGCCCGGCCTCCGTTAGCCAGCGGATCCTGCGGCGCACGGCCAGCGCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCCATATTTGTACACATAACCATCAATGAAATCTATGGAAAGAACAGACAACTCCAGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         testis; thymus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1250
```

WO200220754-A2

05-SEP-2000; 05-SEP-2000; 05-SEP-2000; 05-SEP-2000; 05-SEP-2000; 05-SEP-2000; 06-SEP-2000; 06-SEP-2000; 2000US-229748P. 2000US-229749P. 2000US-229750P. 2000US-229751P. 2000US-230583P. 2000US-229747P

29-AUG-2001; 14-MAR-2002

2001WO-US27127

06-SEP-2000 2000US-230505P. 2000US-230514P. 2000US-230517P. 2000US-230518P. 2000US-230519P. 2000US-230595P. 2000US-230597P. 2000US-230598P. 2000US-230598P. 2000US-230610P. 2000US-230610P. 2000US-230685P.

```
В
                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to human diagnostic and therapeutic (dithp) polynucleotides and their associated polypeptides (DITHP polypeptides). The sequences of the invention are used in the treatment and diagnosis of CC cell proliferative disorders (e.g. atherosclerosis, cirrhosis), cancers (e.g. tumours of the adrenal gland, bone, bone marrow, brain, breast, CC cervix, kidney, lung, ovary, pancreas, prostate, skin, spleen, testis or crymus), autoimmune/inflammatory disorders (e.g. asthma, bronchitis, corectlymus), sectorias inflammatory disorders (e.g. asthma, bronchitis, fungal infections, parasitic infections, developmental disorders (e.g. anaemia, cepilepsy), seizure disorders (e.g. cerebral palsy, spina bifida), corectlymus, seizure disorders (e.g. cerebral palsy, spina bifida), cepilepsy), seizure disorders (e.g. thrombosis, aneurysm), metabolic disorders (e.g. obesity, diabetes), neurological disorders (e.g. stroke, almyotrophic lateral sclerosis, multiple sclerosis), gastrointestinal construction disorders (e.g. ulcerative colitis, lysinuria) and transport disorders (e.g. alkx71535-ABK71809 represent human dithp polynucleotides of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1167
                                                                                                                      1467
                                                                                                                                                                                                            1407
                                                                                                                                                                                                                                                                                                 1347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1107 GAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCGGGACCTCTACCTGCTCATG 1166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 534 BP; 125 A; 154 C; 140 G; 115 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06-SEP-2000; 2000US-230988P.
07-SEP-2000; 2000US-230951P.
07-SEP-2000; 2000US-231163P.
07-SEP-2000; 2000US-231167P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 1; Page 424-425; 686pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Jones AL, Yu JY, Wright RJ, Gietzen D, Liu TF, Yap PE, Dah
Momiyama MG, Bradley DL, Rohatgi SD, Harris B, Roseberry AM;
Gerstin EH, Peralta CH, David MH, Panzer SR, Flores V, Daffs
Marwaha R, Chen AJ, Chang SC, Au AP, Inman RR;
                                                                                                                                                                                                                                                                                                                                                                                       1287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       An isolated polynucleotide useful in diagnostics and therapeutics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Stuart J,
                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                             181
                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INCY-) INCYTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ы
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                         ACGCAGCCGCTGAGCCACTACTTCATCACCCTCGTCCCACAACACCCTACCTCGTGGGTGAC
                                                                                                                                                                                                                                                                                          ACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGACATG
                                                                                                                                                                                                                                                                                                                                         TGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGCTAC
                                                                     CAGCTCATGTCCCAGTCTCGGGTGGACATGTATGCCTGGGTCCTGCAGGCCGGCTGCCGC
                                                                                                                                                                                                                                                                                                                                                                                GAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                              GTGGAGCAGAAGATGAGCGCGCGTGACGCTCGAGAGCTGTCAGAGCATCATCGAGCAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTT 1286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGACCTACAGCATAAGGACCACTTGGATGCCTCCGACCTGCAGCGCTTTCTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGGAATTCTGCGCCTTCTACAAGATGATGTCCACTCGCCGAGACCTCTACCTGCTCATG
                                                                                                               ACGCAGCCTCTGAGTCACCTTCATCACCTCCTCCCACACACCCTACCTCGTGGGTGAC
                                                                                                                                                                                                                                                 ACGCGGAGCCCCGCCGGTGACATCTTCAACCCTGAGCACCACAGAGTGCACCAAGACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAG 1226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2002-383054/41.
Yu JY, Wrig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Altus CM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 442.8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Dufour GE,
tzen D, Liu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2.9e-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                57; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chalup MS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 534;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hillman JL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Daffo A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                 1526
                                                                                                                                                           360
                                                                                                                                                                                                       1466
                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                             1406
                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
```

Ś

Sequence 646 BP; 168 A; 161

Ç 136 G; 181 H.

В Ş Ş

Ş

Ś

á

```
RESULT 9
AAD31082/c
ID AAD31082/c
AC AAD3100
AC AAD3100
AC AAD310
XX Human;
KW Human;
KW PI-PLC
KW CNS di
KW Chroni
KW COSO
ON Homo s
PN WO2002
XX FARB
XX FARB
XX FARB
XX FARB
XX Disclc
CC The in CC C POING
CC C FOING
CC C FOING
CC FOING
CC The pi
CC POSPI
CC AS DN
CC AS DN
CC AS DN
CC The pi
CC AS DN
CC AS DN
CC AS DN
CC Expres
CC PI-PL
CC POSPI
CC POSPI
CC POSPI
CC PI-PL
CC POSPI
CC PI-PL
CC POSPI
CC POSPI
CC POSPI
CC POSPI
CC POSPI
CC PI-PL
CC POSPI
CC POSP
                                                                                                                                                                                                                                                                                                   The invention relates to polynucleotide encoding human CC phosphatidylinositol-specific phospholipase C-like enzyme (PI-PLC-like enzyme) FI-PLC-like enzyme gene is located on CC chromosome 3. The PI-PLC-like enzyme gene is located on CC chromosome 3. The PI-PLC-like enzyme polypeptide and polynucleotide may be used in the prevention, diagnosis and CC treatment of diseases associated with enzyme dysfunction, CC e.g. asthma, cancer, central nervous system (CNS) disorder (e.g. CC Parkinson's disease, dementia) and chronic obstructive pulmonary disease (COPD). The polynucleotide and polypeptide may be used to treat CC disorders associated with decreased PI-PLC-like enzyme expression by rectifying mutations or deletions in a patient's genome that affect the CC activity of PI-PLC-like enzymes, by expressing inactive proteins or to supplement the patients own production of PI-PLC-like enzymes. CC The polynucleotide and its complements may also be used as antigens in the production of antibodies and captured to identify modulators of PI-PLC-like enzyme capression and activity. The anti-PI-PLC-like enzyme and activity of entering the production of antibodies and captured to the complements may be used as antigens in the production of antibodies and captured to despression and activity. The anti-PI-PLC-like enzyme captured to the complements may be used as antigens in the production of antibodies and captured to despression and activity. The antigen expression and activity of the captured to the complements of the complements of the complements of the complements of the captured the capt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                              expression and activity. The anti-PI-PLC-like enzyme antibodies and activity and activity and activity of the enzyme and as diagnostic agents for detecting the presence of the enzyme and as diagnostic agents.
                                                                                                  expressed
                                                                                                                                   PI-PLC-like enzyme in samples. The present sequence is human phosphatidylinositol-specific phospholipase C-like enzyme en
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Fig 4; 125pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        pulmonary disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Isolated polynucleotides encoding human phosphatidylinositol-specific phospholipase C-like enzymes, useful for preventing, diagnosing and treating e.g. asthma, cancer, a CNS disorder or chronic obstructive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2002-372128/40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27-SEP-2000; 2000US-235552P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         04-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; phosphatidylinositol-specific phospholipase C-like enzyme; PI-PLC-like enzyme; chromosome 3; asthma; cancer; central nervous system; CNS disorder; Parkinson's disease; dementia; COPB; protein therapy; chronic obstructive pulmonary disease; gene therapy; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-SEP-2001; 2001WO-EP11012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      expressed sequence tag; EST; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (FARB ) BAYER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200226996-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human PI-PLC-like enzyme expressed sequence tag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAD31082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTGTGGAGGTGGACTGCTGGGATGGGCCTGATGGGGAACCCATTGTCCACCATGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATAT 1640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               standard; cDNA; 646 BP
                                                                                         sequence tag (EST).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entry)
                                                                                                                                        encoding
                                                                                                                                                                                                                                                                                õ
```

```
Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮹
RESULT 10
AAH16211
ID AAH16211
XX AAH16
XX AAH16
XX AAH16
XX AAH16
XX Humar
XX Humar
XX Homo
XX Homo
XX EP107
X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1678
29-JUL-1999;
27-AUG-1999;
11-JAN-2000;
02-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1858
                                                                                                                                                                                                                                                                                                                                                                                                        Human; primer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human cDNA sequence SEQ ID NO:15019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-JUN-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAH16211 standard; cDNA; 3263 BP
                                                                                                                                                                                                                      07-FEB-2001.
                                                                                                                                                                                                                                                                                   EP1074617-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      516
                                                                                                                                                           28-JUL-2000; 2000EP-0116126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCTGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACAICTTCAACC 1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CATTGCACCATGAAGTGTACCAAGACATGGATCAGCCCCTCTGCAACTACTACATTGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGAGCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCT 1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCAAGCTC 1925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIGGGGACAAGCIGGACCIGTCATCAGIGAGCAGTGAAGAIGCCACCACACTCCCCTCIC 1797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGAGAGCCAGTAGTACATCATGGTTACACTCTCACTTCAATAATTCTCTTCAGAGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGCTTGGGTCCTGCAGGCTGGCTGCCGCTGCGAGGTGGACTGCTGGGATGGGCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTCTCACAATACATACCTGTCTGGAGACCAGCTCCTTTCTCAGTCCAAAGTGGATATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGT 1497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGATGCAGAGGAAGGTTTCCGATGAGGACAGTGCAGATGAAATTGAAGATGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACT 1917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCAAAGTTTGAAAGGCAAAATTCTAGTGAAGGGTAAGAAGTTGCCTTATCACCTTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGGAAGAAGCTCCCAGCCAACATCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCGGAGACAAACTGGACCTGTCATCTGTTGATACAGGGGAGTGCAAGCAGCTTCCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCGAGAATCACTGCAGTATCCAGCAGCAAAGGAAGATTGCTCAGTACCTGTTAGGAATAT 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTGTGGAGACCATCAACAAGCCTGCCTTTGTGAAGAATGAGTTTCCTGTTACATTGTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     433;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAAATTC 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
   2000JP-0118776.
2000JP-0183767.
                                                                                                                                                                                                                                                                                                                                                                                                     detection; diagnosis; antisense therapy; gene therapy; ss.
                                                             99JP-0248036.
99JP-0300253.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7.1%;
71.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     °.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 328; DB 24;
Pred. No. 1.3e-52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches 175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 646;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
```

```
comprises: (a) an oligo-dT primer and an oligonucleotide complementary to the complementary strand of a polynucleotide which comprises one of the 5602 nucleotide sequences defined in the specification, where the oligonucleotide sequences at least 15 nucleotides; or (b) a combination of an oligonucleotide comprising a sequence complementary to the complementary strand of a polynucleotide which comprises a 5'-end
                                                                                                                                                                                                                                                                                                                                                                                                                    Primer sets for synthesizing polynucleotides, particularly the 5602 full-length cDNAs defined in the specification, and for the detection and/or diagnosis of the abnormality of the proteins encoded by the
                                                                                                                                                                                                                                                                                                                              The present invention describes primer sets for synthesising 5602 full-length cDNAs defined in the specification. Where a primer set
                                                                                                                                                                                                                                                                                                                                                                          Claim 8; SEQ ID 15019; 2537pp + CD ROM; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-318749/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-JUN-2000; 2000JP-0241899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Isogai T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HELIX RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sugiyama
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nishikawa T, Hayashi K, S
T, Wakamatsu A, Nagai K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Saito K,
K, Otsuki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Yamamoto
                                                                                                                                                                                                                                                                                                                                                                                                                          detection by the
```

Sequence 3263 BP; 829 A; 820 C; 888 G; 726 T; 0 other;

the present invention.

sequence and an oligonucleotide comprising a sequence, where the polynucleotide which comprises a 3'-end sequence, where the oligonucleotide comprises at least 15 nucleotides and the combination of configuration. The primer set scan be used in antisense therapy and the specification. The primer sets can be used in antisense therapy and in gene therapy. The primers are useful for synthesising polynucleotides, particularly full-length cDNAs. The primers are also useful for the detection and/or diagnosis of the abnormality of the proteins encoded by the full-length cDNAs. The primers allow obtaining of the full-length cDNAs easily without any specialised methods. AAH03166 to AAH13628 and AAH13639 represent human amino acid sequences; AAB92446 to AAH95893 represent human amino acid sequences; and AAH13629 to AAH13632 represent oligonucleotides, all of which are used in the exemplification of the property of the process.

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                Ş
                                                                                                                                                           문
                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                  S
                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 1013; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1085 CCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCG 1144
                                  1445 CAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTG
                                                                                                                                                               830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  y Match 7.0%;
Local Similarity 50.7%;
                                                                                                                                                                                                                                               TĊŢĠĠĄĄĊŢĊĄŢŢĠĄĊĊĠĊŢĄŢĠĄĄĊĊŢŢĊĄĠĄĊĄGŢĠĠĊĄĄĄĊŢĠĊĠĠĊĄŢĠŢĠĊŢĠĄĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGC 1204
                                                                                                                                                                                                                                                                                                                                                                                                             TGCTGAGGTGCAGGAACTGTTTGAAAGTTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCT
                                                                                                                                                                                                                                                                                                                                                                    CAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTG 1264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAGTCTGGAACCCTGGAAGGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACG 649
                                                                                                                  CCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCA 1444
                                                                                                                                                               TATGGATGGCTTCCTCAGCTACCTCTGCTCTAAGGATGGAGACACCTTCAACCCAGCCTG
                                                                                                                                                                                                                                                                                      CCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGG
                                                                                                                                                                                                                                                                                                                             TAACACCTACCTAGTGGGGGACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATATATACG 1009
                                                                                                                                                                                                    CATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCA 1384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 323.4; DB 22; Pred. No. 1.3e-51; 0; Mismatches 916;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     916; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                 769
                                             1504
                                                                                      949
```

```
2030
                                                                                                                                                                                                                                2411
                                                                                                                                                                                                                                                                                     1910
                                                                                                                                                                                                                                                                                                                                                                                                1850
                                                                                                                                                                                                                                                                                                                                                                                                                                                        23,02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2010
                                                                                                                                                                            1970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1565
GCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCGGATGCTGCAGCTGAACCGAG
                                                       ATCCCAGCGGCCTGAGGACAGACTCTTCCAACTACAACCCCCAGGAACTCTGGAATGCAG
                                                                                                                                                                   TATACCCTTTTACAGGCAATGAGTTTGTGCAGCACAATACTTGGCAGTTAAGCCGTGTGT
                                                                                                                                                                                                                                                                                                                                   GAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGACCAAGGCCCACCAGATTCT-
                                                                                                                                                                                                                                                                                                                                                                                        AGAGAGGCACAGTGAAACTTTCTGGAGCCAGCTTCAGATGCTGGAGAGAAGGGTGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGACCTGG-----TGAAGTACACCAAGTCCGTGGCCACCCACGACATAGAGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C-AGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAGGAGATGAGGGTCAGGACTCCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACCAAGGCCAAGCGCCTCATCAAGGAGGCTGGTCAGGACCAAAATGGAGGGATGGGGAG
                                                                                                ACCCCTCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCCCTTCTGGAACGCCG
                                                                                                                                                                                                                       ----GCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCAGCAGCTCTCCCGCATCT
                                                                                                                                                                                                                                                                               TAGGCAGGGTCCTTGGGACTAGGGAAGTGGGAGATTCCACCCCACTTCCATCTCCCTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGGCCAGAGCCGAGGGGCGACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCCAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCTTCTCCAGGCGCAAGAAGAAGGG 2182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAAGGTAGCTAAGGAGAGATGAAGGAGTTCAGAAACTCCTTAGAGCAGACAAGGGCAGAG 1789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAGGATGCCGG 2122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGAGACTGAGCCTGAGCCCCAGGAGCAGAACCTTCAGAATAAGGACAAAAAGAAGAAATC 1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGCAGCTTCACACATTCAAAGGAGCACTACCACTTCTACGAGATATCATCTTTCTCTGA 1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----ATTCGGGACTGTGAGGACCCCAACACTTCTCCGTCTCCACACTGTCCCCATC 2062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ССТСААТССССАТССАССАТССВАВАСССТСТВОВАВАВАСАСТССТВАВСВАВА-- 1982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGAGGAAGAGGAAGCAGAACCTGAGTTGGAAGTCAGAATTGGCGCTGGAGTCCCAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCT 1924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCTCAAGGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGC 1864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCAGCTGCTGAGCACCTTGGATGGGGTGCTGCCCACTCAGCTGCCCTCGCCTGAGGA 1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACACACTCCCCTCTCCCACAGAT 1804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACAGTAGCACAGTATGCCTTCCAGACATCAGACTACCCAGTCATCTTGTCCCTGGAGAC 1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACCATCAACAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAA 1684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCTGTCGTTTACCACGGACACACCCTGACCTCCCGCATCCTGTTCAAAGATGTCGTGGC 1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGA 1624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGTCCTGCAGGCTGGCCGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGA 1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTTCGGAGGAAGATCCTGGTGAAGGGGAAGAAGTTAACACTTGAGGAAGACCTGGAATA 1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGCCCTGAAGCGGGGTGCCGCTGCGTGGAGGTGGATGTATGGGATGGACCTAGCGGGGA 1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -CTGGATTCCCTCATCAAAGAGTCGAAG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1849
                                                       2089
                                                                                                           2526
                                                                                                                                                                   2029
                                                                                                                                                                                                                                                                                                                                                                                        1909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1429
```

뫄

8 밁 Ś

В Ş В

Ş

В

Ś 밁 Ś

Ś

밁 Ş В 8 밁 8 밁 Ś 밁 Ş

밁 δ 밁

Ś 밁 Ş

WPI; 2001-582456/65

Ś

밁 Ş

밁

밁 Ś 밁 Ş

```
AAD17564

ID AAD1

XX

AC AAD1

XX

XX

DE Nove

XX

Hume

KW phose

KW drug

KW gene

XX

Home

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                           Hu Y, Nepomnichy B, Donoho G, Hi Friedrich G, Zambrowicz B, Sands
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200168871-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; novel human protein; NHP; phospholipase protein; phospholipid; phospholipase C delta-4; cell activation; signal transduction; cancer, drug screening; biological disorder; mental disorder; medical disorder gene therapy; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2381
                                                                                                                                                                                                                                                       (LEXI-) LEXICON GENETICS INC.
                                                                                                                                                                                                                                                                                                                                                        13-MAR-2000; 2000US-0188885.
15-MAR-2000; 2000US-0189693.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13-MAR-2001; 2001WO-US07994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel human phospholipase cDNA #8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAD17564 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2441 GTTTCCGGGTGCTGGTGCCTGAACTTGCCATGCTGCGTTTTGTGGTAATGGATTATGACT 2500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2887 TTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGGTTCCTCGTCTGGGACCACGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2707 TCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACTCCATGCTGGGGGACCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTTACCGCCACATTCACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTACAGACACGTGTACCT 3022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCA---TCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGCCAG 3003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCAGGAGACCAACTATGTGGAGAACAATGGTTTTAATCCATACTGGGGGCAGACACTAT 2440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAAGTTCAGCGCCAACGGGCTGCGGCTACGTACTCAAGCCCTGGGTGCATGTGCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACTGCAGCA 2826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTGCCAGATGGTGGCCATGAATATGCAGACTGCAGGGCTTGAAATGGACATCTGTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          еванасная составательной положений положен
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----ATTGTGGATCCACTGGTGAAAGTGCAGATCTTTGGCGTTCGTCTAGACACAGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCAGGTGATCAGCGGTCAGCAACTCCCCAAAGTGGACAAGACCAAAGAGGGGTCC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCCAGAGTTCTTTCCACCCTGAGAAGCCCATCAGCCCTTTCAAAGCCCCAGACTCTCTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGCTGGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGCATTTCCGCCAGAATGGCGGCTGTGGCTATGTGCTGAAGCCAGACTTCCTGCGTGATA 2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1..2289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      product= "Human phospholipase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cDNA; 2289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ВP
                                                                                                Hilbun
ds AT;
                                                                                                                                                      Turner
                                                                                                                                                 CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              medical disorder
                                                                                                                                                 Abuin
                                                                                                                                                 Þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2149
```

P-PSDB; AAE10440

```
The present sequence is a cDNA encoding novel human protein (NHP), CC phospholipase protein. Phospholipases hydrolyse phospholipids and play CC a key role in the cell activation and signal transduction. NHPs share Structural similarity with animal phospholipases, including phospholipase C delta-4. NHP oligonucleotides are useful in conjunction with CC polymerase chain reaction (PCR) to screen libraries, isolate clones, CC and prepare cloning and sequencing templates, and alternatively as CC expression patterns. They are used in the identification, selection CC expression patterns. They are used in the identification, selection CC and validation and characterisation of human genomic clones is helpful CC for identification and characterisation of human genomic clones is helpful CC comprising NHP cDNA is useful for screening collections of genetic CC material from patients having a particular medical condition, which CC is used to identify mutations associated with a particular disease and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Sim
Matches 679;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          also as diagnostic or prognostic assay. NHP nucleotide sequences are useful for drug screening. Nucleotide construct encoding NHP products are used in gene therapy for modulating NHP expression and to produce genetically engineered host cells to express NHP products in vivo. The NHP sequences are useful for generating antibodies, as reagents in diagnostic assays, for identifying other cellular gene products related to NHP and as reagents in assays for screening for compounds that are useful in the treatment of mental, biological or medical disorders and diseases. They can be used to therapeutically augment the efficacy of chemotherapeutic agents used in the treatment of breast or prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New polynucleotides encoding human phospholipase protein involved in cell activation and signal transduction, useful for drug screening, diagnosis and in gene therapy of biological disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2289
                                                         1164
                                                                                                                                                                                                                                                                                                                                                      1044
                                                                                                                                                                                                                                                                                                                                                                                                                          457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                            ATGCTGACCTACAGCACCACAGAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG 12
                                                                                                                                                                                                                                                                                                                                                      CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACGCGATGACCACCAAGGGACGCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGCATGGACCATCAGGAGCGCCT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCCGCCGCTCCAACCTGGACCTGATGGCCAACAGTGTTGAGGAGGCCCAGATATGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTGCTGCGTAGCCTGGCAGAGGAGCTCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGGC 803
                                                                                                                                                                                                                                                                              GAATATGCCTTCAGTCTTTTTCAGGCAGCAGACACG---TCCCCAGTCTGGAACCCCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                              AGCCTGAGCATTGGCGAGGTCCTGCAGCTGCACCAAGCTCAACGTGAACCTGCCCCGG
                                                                                                                                     GGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACGTGCTGAGGTGCAGGAACTG
                                                                                                                                                                                                     TTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----GGACCAATGGCTGAGCGATTGGTTTCAACGTGGAGACAAAAATCAGGATGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8; Page 40-41; 45pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           568 A; 588 C; 623 G; 510 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 308.6; DB 2
Pred. No. 7.3e-49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches 559; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                  516
                                                                                                                                                                                                                                                                                     573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   983
693
                                                                                                                                        633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           404
```

2

δ

밁

밁 S 밁

밁 Ş 밁 5 밁 Ś

문 5

TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTGGATTTCCTC

S

밁 S

```
RESULT 12
AAD23721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                    닭
                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
1174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1224
                                                                                                                                                                                                                                                                                                                                                                             1354
                                                                                                                                                                                                                                                                                                                                                                                                            1884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1404
                                                         arteriosclerosis; epilepsy; depression; neurodegenerative disease;
stroke; rheumatoid arthritis; immune disorder; chromosome localisation;
                                                                                  angina pectoris; percutane transluminal coronary angiography; Pthrombo embolic insult; disseminated intravascular coagulation;
                                                                                                                                                Human phospholipase C delta 5
                                                                                                                                                                                                                                          AAD23721 standard; DNA; 2289
                                                                                                                                                                                                                                                                                                                    1414
                                                                                                                                                                                                                                                                                                                                                                                                                                          1294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1824
                                         vaccine; gene therapy;
                                                                                                                                                                               07-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGAGCAGTGAAGATGCCACACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCCTGGACCTGTCATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACACCCTGACCTCCCGCATCCTGTTCAAAGATGTCGTGGCCACAGTAGCACAGTATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGC 1583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATATATACGGGCCCTGAAGCGGGGGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAAGAGGAGCAGAAGGAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGC
                                                                                                                                                                                                                                                                                                                    CAGGAGCAGAACCTTCAGAATAAGGACAAAAAGAAGAAATCCAAGCCCATCTT
                                                                                                                                                                                                                                                                                                                                               ACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCAT 1996
                                                                                                                                                                                                                                                                                                                                                                             CCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                          GATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTGGATGGGGTGCTGCCCACTCAGCTGCCCTCGCCTGAGGAGCTTCGGAGGAAGATCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCAGACCATGGCCCGTCATCTGACTGAGATCCTGGGGGAGCAGCTGCTGAGCACCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ттсатсандаатдадтасссадтдатсстдтссатсдалалассастдсадтдтсатссад
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCTGCGTGGAGGTGGATGTATGGGATGGACCTAGCGGGAACCTGTCGTTTACCACGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGAAGGGGAAGAAGTTAACACTTGAGGAAGACCTGGAATATGAGGAAGAAGCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCCAGACATCAGACTACCCAGTCATCTTGTCCCTGGAGACCCACTGCAGCTGGGAGCAG
                                                                                                                  phospholipid C delta 5; PLCD5 protein;
                                                                                                                                                                               (first entry)
                                             gp
                                                                                                                                                                                                                                            BP
                                                                                                                                                   (PLCD5) DNA #1.
                                                                                                                      deep vein thrombosis;
                                                                                                                                                                                                                                                                                                                      1466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              813
```

Location/Qualifiers

```
Ś
                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                              Ś
                                    밁
                                                                    S
                                                                                                        밁
                                                                                                                                       Ś
                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        corresponding polynucleotides. PLCD5 sequences are useful for treating deep vein thrombosis, instable angina pectoris, percutane transluminal coronary angiography (PTCA), thrombo embolic insult, disseminated intravascular coagulation, arteriosclerosis, epilepsy, depression, neurodegenerative diseases, stroke, rheumatoid arthritis and immune disorders. PLCD5 sequences are also useful as vaccines for inducing immunological response in a mammal PLCD5 DNAs are also useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New phospholipase C delta 5 polypeptides, useful for treating deep vein thrombosis, instable angina pectoris, percutane transluminal coronary angiography, disseminated intravascular coagulation and epilepsy -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           chromosome localisation studies, as valuable tools
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 4; Page 34-37; 51pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Brandt S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-APR-2000; 2000EP-0109318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27-APR-2001; 2001WO-EP04784.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-NOV-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200183771-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (MERE ) MERCK PATENT GMBH.
                                                                                                                                                                                                                                                                                                                   349
                                                                                                                                                                                                                                                                                                                                                                                                                                                         229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Match
ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG 122
                                    GGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAAACGTGCTGAGGTGCAGGAACTG
                                                                                                                                                                                                                                                                              CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGATGGC 983
                                                                                                                                                                                                                                                                                                                                                ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCAG 923
                                                                    TTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTC 1163
                                                                                                      GAATATGCCTTCAGTCTTTTTCAGGCAGCAGACACG---TCCCAGTCTGGAACCCTGGAA
                                                                                                                                        CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGT 1103
                                                                                                                                                                         AGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCCCCGG 1043
                                                                                                                                                                                                                                                                                                                CGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGCATGGACCATCAGGAGCGCCT----
                                                                                                                                                                                                                                                                                                                                                                                 GGCCGCCGCTCCAACCTGGACCTGATGGCCAACAGTGTTGAGGAGGCCCAGATATGGATG 348
                                                                                                                                                                                                                                                                                                                                                                                                                   TTGCTGCGTAGCCTGGCAGAGGAGCTCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGGC 803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2002-034515/04.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        679;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PLCD5 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAE14268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2289 BP; 568 A; 587 C; 623 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                discloses phospholipid C delta 5 (PLCD5) proteins and their
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Duecker K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in gene therapy. The present sequence is a DNA encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                             GGACCAATGGCTGAGCGATTGGTTTCAACGTGGAGACAAAAATCAGGATGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1..2289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product= "Human PLCD5 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    54.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 308.6;
Pred. No. 7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches 559;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         511 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .3e-49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in tissue expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                             456
                                                                                                                                                                                                                                                                                                                404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
```

```
뭐
                                   Ś
                                                                               밁
                                                                                                                    Ş
                                                                                                                                                              망
                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
1414 CAGGAGCAGAACCTTCAGAATAAGGACAAAAGAAGAAATCCAAGCCCATCTT
                                                                                                                                                                                                          1824
                                                                                                                                                                                                                                                 1234
                                                                                                                                                                                                                                                                                                                                                                                                                      1114
                                                                                                                      1884 GATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            814
                                       ACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCAT 1996
                                                                               CCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTTTGAGACCTGAGCCTGAGCCC
                                                                                                                                                                GTGAAGGGGAAGAAGTTAACACTTGAGGAAGACCTGGAATATGAGGAAGAGGAAGCAGAA
                                                                                                                                                                                                       GTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCT
                                                                                                                                                                                                                                                 TTGGATGGGGTGCTGCCCACTCAGCTGCCCTCGCCTGAGGAGCTTCGGAGGAAGATCCTG
                                                                                                                                                                                                                                                                                       GTGAGCAGTGAAGATGCCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                      TTCCAGACATCAGACTACCCAGTCATCTTGTCCCTGGAGACCCACTGCAGCTGGGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCC
                                                                                                                                                                                                                                                                                                                                  CAGCAGACCATGGCCCGTCATCTGACTGAGATCCTGGGGGAGCAGCTGCTGAGCACCACC
                                                                                                                                                                                                                                                                                                                                                                            CAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACACCCTGACCTCCCGCATCCTGTTCAAAGATGTCGTGGCCACAGTAGCACAGTATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCCATTGTGCACCATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACCAGCTTTGTGGCCAGAGCAGCGTCGAGGGATATATACGGGCCCTGAAGCGGGGGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC 1403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTTGAAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTTGGATTTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCTGCGTGGAGGTGGATGTATGGGATGGACCTAGCGGGGAACCTGTCGTTTACCACGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCCTACCTCGTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCCTGCTGGGCATTGATGGCTTCACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAAGAGGAGCAGAAGGAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGC 753
                                                                                                                                                                . 1353
                                                                                                                                                                                                                                                                                                                                  1233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           813
```

ABK10063 standard; cDNA; 2629

21-MAY-2002 (first entry)

Human phospholipase C 16816 cDNA.

Human; phospholipase C; PLC; phospholipase C 16816; brain disorder; gecellular proliferative disorder; differentiative disorder; prion disease callular proliferative disorder; differentiative disorder; prion disease; lacute menigitis; cirrhosis; districter; cerebrovascular disease; acute menigitis; cirrhosis; demyelinating disease; degenerative disease; heart disorder; rickets; ischaemic heart disease; myocardial disease; neoplastic heart disease vascular disease; inflammatory disease; bone metabolism disorder; chronic renal disease; haematopoietic disorder; autoimmune disease; disease; disease; ss;

```
밁
                           Ş
                                                                               밁
                                                                                                                        Ś
                                                                                                                                                                     밁
                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             arthritis; systemic lupus erythematosus; Sjogren's syndrome; psoriasis; Crohn's disease; uveitis; atopic allergy; balloon angioplasty; coronary artery bypass graft surgery.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ischaemia and hypertensive encephalopathy), infections (e.g. acute meningitis and prion diseases), demyelinating diseases (e.g. multiple sclerosis), degenerative diseases (e.g. Alzheimer's disease), heart diseases including heart failure, ischaemic heart disease (e.g. myocardial infarction), myocardial disease (e.g. myocarditis), neoplastic myocardial infarction), myocardial disease (e.g. myocarditis), neoplastic heart diseases (e.g. angina pectoris), vascular diseases (e.g. hone atherosclerosis), inflammatory disease (e.g. Kawasaki syndrome), bone metabolism disorders (e.g. osteoporosis), cirrhosis, rickets, chronic ranal disease, haematopoietic disorders, autoimmune diseases (e.g. cranal disease, haematopoietic disorders, autoimmune diseases (e.g. diabetes mellitus), arthritis, systemic lupus crythematosus, Sjogren's syndrome, psoriasis, Crohn's disease, uveitis, atopic allergy, and pathology of therapeutic interventions in vascular disease (e.g. balloon pathology of therapeutic interventions in vascular disease (e.g. balloon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New human phospholipase C protein for diagnosing and treating disorders e.g. Alzheimer's disease, heart failure, cancer, psoriasis, Sjogren's disease, and to identify modulators for therapeutic use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to human phospholipase C (PLC) polypeptides 16816 and 16839. The polypeptides can be used in the treatment and diagnosis of various disorders including cellular proliferative and/or differentiative disorders (e.g. carcinoma and leukaemia), brain disorders including glial disorders (e.g. cerebral oedema), cerebrovascular diseases (e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Meyers R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17-JUL-2000; 2000US-218675P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17-JUL-2001; 2001WO-US22760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200206302-A2
                                                                                                                                                                                                                                                                                                                                                                                  angioplasty and related techniques) and vascular replacement (\bar{e}\cdot g coronary artery bypass graft surgery). This sequence represents clencoding the human phospholipase C 16816.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P-PSDB; AAU76816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (MILL-) MILLENNIUM PHARM INC
                                                                                                                                                                                                                                                                                                                                             Sequence 2629 BP; 648 A; 677 C; 735 G; 569 T; 0 other;
  605
                                             864
                                                                                                                                                                                                                744 TICCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTTCCAGCATCTACCACGGC
                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2002-188535/24.
CGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGCATGGACCATCAGGAGCGCCT----
                                           ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACAGCCTGGCTCGCCGCCAG 923
                                                                                    GGCCGCCGCTCCAACCTGGACCTGATGGCCAACAGTGTTGAGGAGGCCCAGATATGGATG
                                                                                                                               AGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGCACCTGGGTC 863
                                                                                                                                                                          TTGCTGCGTAGCCTGGCAGAGGAGCTCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT 544
                                                                                                                                                                                                                                                              679;
                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fig 1; 129pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rudolph-Owen L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /transl_except= (pos:760..762, aa:Arg)
/transl_except= (pos:1981..1983, aa:Gly)
/note= "This region is specifically claimed"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
257..2545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product= "Human phospholipase C 16816"
                                                                                                                                                                                                                                                                                6.7%;
54.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tsai FY;
                                                                                                                                                                                                                                                              o
;:
                                                                                                                                                                                                                                                                                  Score 308.6; DB 2
Pred. No. 7.5e-49;
                                                                                                                                                                                                                                                       Pred. No. 7.50
0; Mismatches
                                                                                                                                                                                                                                                                                                       DB 24; Length
                                                                                                                                                                                                                                                              559; Indels
                                                                                                                                                                                                                                                                                                           2629;
                                                                                                                                                                                                                                                                15;
                                                                                                                                                                                                                                                                  2
```

```
Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                              밁
                                                                                                                                                          S
                                                                                                                                                                                             멂
                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                            Ş
밁
                             á
                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1224
                                                                                                                                                               1824
                                                                                                                                                                                                                                                                                                                                 1370
                                                                                                                                                                                                                                                                                                                                                                  1644
                                                                                                                                                                                                                                                                                                                                                                                                   1310
                                                                                                                                                                                                                                                                                                                                                                                                                                  1584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1344
                                                                                                                                                                                                1490
                                                                                                                                                                                                                                                                  1430
 1670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTC 1163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCACCAGGGACCAGTGGCTGAAGCAGGACGTTTGACGAGGCCGACAAGAACGGGGATGGC 983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTTGCTGGGCATTGATGGCTTCACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAAGAGGAGCAGAAGAGAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACGTGCTGAGGTGCAGGAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAATATGCCTTCAGTCTTTTCAGGCAGCAGACACG---TCCCAGTCTGGAACCCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGT 1103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCCCCGG 1043
                                                                                                                                                                                                                                                                                                                                                                                                                                 TACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TACACCAGGAGCCCTGCTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC 1403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTTGGATTTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATATATACGGGCCCTGAAGCGGGGGGTGC
                                                                                               GATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC
                                                                                                                                                              CAGAAGAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCA 1763
                                                                                                                                                                                                                                                                                                                                                                ттсатсалвалатвавтасссавтватсствтскатсвалалассаствелетелист
                                                                                                                                                                                                                                                                                                                                                                                                   CACACCCTGACCTCCCGCATCCTGTTCAAAGATGTCGTGGCCACAGTAGCACAGTATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 сестесетеелеетеелствестееелтееесссвасеееелесссаттетеслеслеес
 CAGGAGCAGAACCTTCAGAATAAGGACAAAAAGAAGAAATCCAAGCCCATCTT 1722
                                 ACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCAT 1996
                                                                  CCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCC
                                                                                                                                GTGAAGGGGAAGAAGTTAACACTTGAGGAAGACCTGGAATATGAGGAAGAGGAAGCAGAA 1609
                                                                                                                                                                                                TTGGATGGGGTGCTGCCCACTCAGCTGCCCTCGCCTGAGGAGCTTCGGAGGAAGATCCTG
                                                                                                                                                                                                                                GTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTC 1823
                                                                                                                                                                                                                                                                 CAGCAGACCATGGCCCGTCATCTGACTGAGATCCTGGGGGAGCAGCTGCTGAGCACCACC
                                                                                                                                                                                                                                                                                                                                   TTCCAGACATCAGACTACCCAGTCATCTTGTCCCTGGAGACCCACTGCAGCTGGGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCTGCGTGGAGGTGGATGTATGGGATGGACCTAGCGGGGAACCTGTCGTTTACCACGGA 1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -GGACCAATGGCTGAGCGATTGGTTTCAACGTGGAGACAAAAATCAGGATGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1283
                                                                                                                                                                                                                                                                                                                                                                                                        1369
                                                                                                                                                                                                                                                                                                                                                                                                                                         1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1249
                                                                                                                                                                                                       1549
                                                                       1669
```

```
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
                                                           Query Match
                                                                                                                                                                                           also as diagnostic or prognostic assay. NHP nucleotide sequences are useful for drug screening. Nucleotide construct encoding NHP products are used in gene therapy for modulating NHP expression and to produce genetically engineered host cells to express NHP products in vivo. The NHP sequences are useful for generating antibodies, as reagents in diagnostic assays, for identifying other cellular gene products related to NHP and as reagents in assays for screening for compounds that are useful in the treatment of mental, biological or medical disorders and diseases. They can be used to therapeutically augment the efficacy of chemotherapeutic agents used in the treatment of breast or prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and prepare cloning and sequencing templates, and alternatively as hybridisation probes for screening libraries and assessing gene expression patterns. They are used in the identification, selection and validation of novel molecular targets for drug discovery, where identification and characterisation of human genomic clones is helpful for identifying polymorphisms, determining the genomic structure of a given locus/allele and designing diagnostic tests. The microarray
                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     comprising NHP cDNA is useful for screening collections of genetic material from patients having a particular medical condition, which is used to identify mutations associated with a particular disease and the state of the sta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     lipase C delta-4. NHP oligonucleotides are useful in conjunction wit polymerase chain reaction (PCR) to screen libraries, isolate clones,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    phospholipase protein. Phospholipases hydrolyse phospholipids and play a key role in the cell activation and signal transduction. NHPs share structural similarity with animal phospholipases, including phospholipases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 44-45; 45pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; novel human protein; NHP; phospholipase protein; phospholipid; phospholipase C delta-4; cell activation; signal transduction; cancer; drug screening; biological disorder; mental disorder; medical disorder; gene therapy; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13-MAR-2000; 2000US-0188885
15-MAR-2000; 2000US-0189693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        L5-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3-MAR-2001; 2001WO-US07994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vovel human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAD17567;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAD17567 standard; cDNA; 2709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LEXI-) LEXICON GENETICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0-DEC-2001
                         hocal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 present sequence is a cDNA encoding novel human protein (NHP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     polynucleotides encoding human phospholipase protein activation and signal transduction, useful for drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nepomnichy B, Doi
ich G, Zambrowicz
                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and in gene therapy of biological disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phospholipase cDNA #11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry
                                                                                                                   B₽;
                                                                                                                   680
                         6.7%;
54.2%;
                                                                                                                A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Donoho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                     Score 308.6; DB 22;
                            Pred.
                                                                                                                Ç;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ġ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sands
                                                                                                                744 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hilbun E,
                         No.
                                                                                                                595
                         .5e-49
                                                                                                                T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Turner CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in conjunction with
                                                     Length 2709;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Abuin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  screening,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 involved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and
```

679;

Conservative

0

Mismatches

559; Indels

15;

Gaps

ν.

```
S
                                                                                                                                                                         뫄
                                         Ş
                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                          Б
                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                    1584
                                                                                                                                                                                                                                                                                                                                              1251
                                                                                                                                                                                                                                                                                                                                                                                                                               1191
                                                                                                                                                                                                                                                                                                                                                                                       1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               744
                                       GTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTC
TTGGATGGGGTGCTGCCCACTCAGCTGCCCTCGCCTGAGGAGCTTCGGAGGAAGATCCTG
                                                                                   CAGCAGACCATGGCCCGTCATCTGACTGAGATCCTGGGGGAGCAGCTGCTGAGCACCACC
                                                                                                                        CAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCA 1763
                                                                                                                                                                    TTCCAGACATCAGACTACCCAGTCATCTTGTCCCTGGAGACCCACTGCAGCTGGGAGCAG
                                                                                                                                                                                                          TTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAG
                                                                                                                                                                                                                                                      CACACCCTGACCTCCCGCATCCTGTTCAAAGATGTCGTGGCCCACAGTAGCACAGTATGCC
                                                                                                                                                                                                                                                                                             TACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCC
                                                                                                                                                                                                                                                                                                                                         CGCTGCGTGGAGGTGGATGTATGGGATGGACCTAGCGGGGAACCTGTCGTTTACCACGGA
                                                                                                                                                                                                                                                                                                                                                                                 CGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                           GACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATATATACGGGCCCTGAAGCGGGGGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACACACCCTACCTCGTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTTGGATTTCCTC 950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGGCCAGCCTGCAGCGCTTCCTG 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACGTGCTGAGGTGCAGGAACTG 890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTC 116:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAATATGCCTTCAGTCTTTTTCAGGCAGCAGACACG---TCCCAGTCTGGAACCCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGT 1103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAAGAGGAGCAGAAGGAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCCCCGG 1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGCATGGACCATCAGGAGCGCCT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCCAACTGCTTCAGCATCTACCACGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCCGCCGCTCCAACCTGGACCTGATGGCCAACAGTGTTGAGGAGGCCCCAGATATGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGCTGCGTAGCCTGGCAGAGGAGCTCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGACCAATGGCTGAGCGATTGGTTTCAACGTGGAGACAAAAATCAGGATGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1010
                                                                                                                                                                                                                                                                                                                                                                                                                           1250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  605
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                               20-JUN-2000;
03-AUG-2000;
22-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; apolipoprotein; lipase; lipoprotein receptor; ALLr; angina; cardiovascular disease; lipid metabolism; myocardial infarction; cerebral ischaemia; arterial thrombosis; thrombolytic; antilipaemic; coronary artery thrombosis; cerebral artery thrombosis; stroke;
The invention relates to polymucleotides encoding proteins CG122, CG17 CG95, CG121, CG162, CG27, CG153 and CG168 which are related to protein involved in lipid metabolism and cardiovascullar disease such as human apolipoproteins, lipases and lipoprotein receptor proteins. These DNA and protein sequences are useful for treating or preventing disorders associated with apolipoproteins. lipases and lipoprotein receptor (ALL expression and for treating lipases).
                                                                                                                                                  Nucleic acids encoding human apolipoproteins, lipases, and lipoprotein receptor polypeptides, useful for preventing diagnosing and treating lipid metabolism disorders, thrombosis and cardiovascular diseases -
                                                                                                                                                                                                                                                        Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAD19219
                                                                                                                      Claim 1; Page 155-158; 266pp; English
                                                                                                                                                receptor polypeptides,
lipid metabolism At-
                                                                                                                                                                                                                              WPI; 2001-611724/70.
                                                                                                                                                                                                                                                                                                                                                                                                              14-APR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                            16-APR-2001; 2001WO-US12529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200179446-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       neuroprotectant; cerebroprotective; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    intracardiac thrombosis; gene therapy; cardiovascular; vasodilator;
                                                                                                                                                                                                                                                                                                                      (HYSE-) HYSEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGGÁGCAGAACCTTCAGAATAAGGACAAAAAGAAGAAATCCAAGCCCATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGAAGGGGAAGAAGTTAACACTTGAGGAAGACCTGGAATATGAGGAAGAGGAAGCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CG121 (or
                                                                                                                                                                                                                                                                        Asundi V,
                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                 2000US-197137P.
2000US-0598042.
2000US-0631451.
2000US-0667298.
2000US-0714936.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry
                                                                                                                                                                                                                                                                                                                    INC.
                                                                                                                                                                                                                                                                                        Loeb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C592) lipase DNA #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product= "Human CG121 (or C592) lipase protein"
/note= "CDS does not include stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               140..1840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA;
                                                                                                                                                                                                                                                                          Zhao
                                                                                                                                                                                                                                                                                        'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1840
                                                                                                                                                                                                                                                                       Montgomery JR,
QA, Wehrman T,
                                                                                                                                                                                                                                                                        Tang TY, Zh
Drmanac RT,
                                                                                                                                                                                                                                                                                     Zhou
                                                                                                                                                                                                                                                                                        ָּט
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1996
                                                                                                                                                                                                                                                                                        Goodrich R;
                                                                          proteins
                                                                                           CG179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1610
```

```
á
                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                     밁
                                                                    Ś
                                                                                                        밁
                                                                                                                                   Ś
                                                                                                                                                                           밁
                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                 멂
                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and thrombosis. Antibodies against these proteins are useful for determining the presence of or predisposition to a disease associated with altered levels of these sequences. ALLY polypeptides are also useful for identifying agents (agonists and antagonists) that bind to them and cells expressing ALLY proteins are useful for identifying a therapeutic agent for use in treatment of a pathology related to aberrant expression or physiological interactions of this polypeptide. Vectors comprising these DNA and protein sequences are also useful for producing ALLY proteins. The nucleic acids and polypeptides of the invention are also useful for the treatment of occlusive cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                diseases, myocardial infarction, cerebral ischaemia, angina, arterial thrombosis, coronary artery thrombosis and cerebral artery thrombosis or intracardiac thrombosis and stroke. The nucleotides of the inventic are used in gene therapy. The present sequence is human CG121 (or C59)
     1464
                                       1013
                                                                        1404
                                                                                                                                                                                                                                                                                                                                                     1164
                                                                                                                                                                                                                                                                                                                                                                                                                         1104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1840 BP;
                                                                                                                                         1344
                                                                                                                                                                                                             1284
                                                                                                                                                                                                                                                                                  1224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1044
                                                                                                                                                                           893
                                                                                                                                                                                                                                                833
                                                                                                                                                                                                                                                                                                                                                                                                                                                            656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            744 TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
     TTTGAGCCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAAC
                                                                                                                                                                                                                                                                                                                                                     ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                        TITGAAGAGITCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTC 1163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGT 1103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGGATGGACCATCAGGAGCGCCT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACAGCCTGGCTCGCCGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCCGCCGCTCCAACCTGGACCTGATGGCCAACAGTGTTGAGGAGGCCCAGATATGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGCTGCGTAGCCTGGCAGAGGAGCTCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT
                                     TACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC
                                                                                                                                                                             CAAGAGGAGCAGAAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGC
                                                                                                                                                                                                                                                                                CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                       GGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACGTGCTGAGGTGCAGGAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAATATGCCTTCAGTCTTTTTCAGGCAGCAGACACG---TCCCAGTCTGGAACCCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----GGACCAATGGCTGAGCGATTGGTTTCAACGTGGAGACAAAAATCAGGATGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGATGGC
                                                                                                                                                                                                                                                                                                                   TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTGGATTTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   455 A; 483 C; 508 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6.6%; but.
54.1%; Pre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 307; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     394 T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .4e-48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 1840;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CG121 (or C592)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                       1223
                                         1072
                                                                                                            1012
                                                                                                                                                                                                                 1343
                                                                                                                                                                                                                                                                                  1283
                                                                                                                                                                                                                                                                                                                                                                                                                                                               712
         1523
                                                                                                                                                                                                                                                  892
                                                                                                                                                                                                                                                                                                                    832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        543
                                                                                                                                                                               952
```

<u>ب</u>

1073

GACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATATATACGGGCCCTGAAGCCGGGGTGC

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                             8
                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
Search completed: March 28, 2003, 16:33:51
Job time : 1148 secs
                                                                                         밁
                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                              1944 ACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCAT 1996
                                                                                                                                                                                                                                                                                                                                                        1373 TTGGATGGGGTGCTGCCCACTCAGCTGCCCTCGCCTGAGGAGCTTCGGAGGAAGATCCTG 1432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1644 TTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAG 1703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1524 CGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGC 1583
                                                                                      1553 CAGGAGCAGAACCTTCAGAATAAGGACAAAAAAGAAATCCAAGCCCATCTT 1605
                                                                                                                                                                                                                                                                                                                                                                                       1764 GTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTC 1823
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1704 CAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCA 1763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1193 CACACCCTGACCTCCCGCATCCTGTTCAAAGATGTCGTGGCCACAGTAGCACAGTATGCC 1252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1584 TACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCCATCAACAAATATGCC 1643
                                                                                                                                                                               1493 CCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCC 1552
                                                                                                                                                                                                                       1884 GATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC 1943
                                                                                                                                                                                                                                                                    1433 GTGAAGGGGAAGAAGTTAACACTTGAGGAAGACCTGGAATATGAGGAAGAAGAAGCAGAA 1492
                                                                                                                                                                                                                                                                                              1824 GTGAAGGGGAAGAAGCTCCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGGAAGGCGAGGTGTCT 1883
                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGCAGACCATGGCCCGTCATCTGACTGAGATCCTGGGGGAGCAGCTGCTGAGCACCACC 1372
```

```
OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   March 28, 2003, 12:21:40; Search time 6814 Seconds (without alignments)
11016.449 Million cell updates/sec
               76:
88:
110:
110:
1114:
1144:
1155:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
1156:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST:*
1: em
2: em
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16154066 seqs, 8097743376 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IDENTITY NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-927-112-1
4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 tcgcgatctagaactagtgg.....ggtaacggggcccagccccg 4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                em_htc:*
gb_est1:*
gb_htc::*
gb_htc::*
gb_est3:*
gb_est4::*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               em_esthum:*
em_estin:*
em_estmu:*
em_estov:*
em_estpl:*
em_estro:*
em_estfun:*
em_estrom:*
gb_gss:*
gb_gss:*
em_gss hum:*
em_gss inv:*
em_gss pin:*
em_gss yrt:*
em_gss fun:*
em_gss mus:*
em_gss mus:*
em_gss choes:*
em_gss rod:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         em_estba:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  32308132
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

თ	σı	4.	ω	N	-	Result No.
550	570.4	580.8	588.8	610.4	647	Score
11.9	12.3	12.5	12.7	13.2	14.0	Query Match Length DB ID
561	663	1016	759	930	889	Length 1
5	12	12	12	14	14	DB
BE255177	BG819793	BG394794	BG472146	BQ960462	BQ946757	ID
BE255177 601115717	BG819793 602781835	BG394794 602457129	BG472146 602513869	BQ960462 AGENCOURT	BQ946757 AGENCOURT	Description

				α α	O
44 44 44 45	35 25 35 35 35 35 35 35 35 35 35 35 35 35 35	30 31 32	2222222 22222 28322 2832 2832 2832 2832	10 11 12 13 14 15 16 17	9 8 7
9440084		7. 23	321 315.6 294.2 288.2 280.8 279.6 275.8	4665 456.4 451.8 416.4 394.8 389.2 341.8 341.8	514.6 478 472.6
				77788999	
496 882 1112 798 897 226	814 539 817 547 807 844 479	713 705 610 488	645 523 395 2674 678 1222 1664 1664	733 696 711 667 714 509 514 646	801 1002 577
13 14 14 13 13	12 14 13 13	13	10 10 10 10 10 13 13 13	10 10 12 12 12 12 12 12 10 10	10 14
3142 7705 7208 7208 2026 4752 4775	7000000	274	1344372433	3072 3072 9924 9924 9924 983 983 983 945 9392	5535 0383 3267
4 K W W W W	75240 6026502 03961 601084 4862 AU124862 20228 faa15e0 66678 6027399 28021 6030737	1100000 60335539 [b97e03.y 270534 M	UI-M-FCO fi61908. fi61908. TCBAP3E1 TCBAP3E1 AUSC AV361753 AGENCOUR 60303004 Mus musc BB642639 fi60dos	30723 BB430723 30723 BB430723 99246 60239573 24082 BB624082 08459 6015309 52903 BB652903 52903 BB652903 63298 UI-M-CG0 68680 UI-M-CG0 88680 UI-M-CG0	55354 60111536 03836 AGENCOUR 32679 UI-M-CG0

ALIGNMENTS

FEATURES SOUTCE	JOURNAL COMMENT	ORGANISM REFERENCE AUTHORS	RESULT 1 BQ946757 LOCUS DEFINITION ACCESSION VERSION KEYWORDS
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLML) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov plate: LLAM13991 row: k column: 10 High quality sequence stop: 676. Location/Qualifiers 1889	Unpublished (1999) Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov Tissue Procurement: The Cepko Laboratory cDNA Library Preparation: Life Technologies, Inc.	Mus musculus Mus musculus Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Eukaryota; Metazoa; Chordata; Sciurognathi; Muridae; Murinae; Mus. Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 889) 1 (bases 1 to 89) 1 (bases 1 to 805) 1 (bases 1 to 805) 1 (bases 1 to 805)	BQ946757 8924326 NIH_MGC_94 Mus musculus cDNA clone IMAGE:6466785 5', mRNA sequence. BQ946757 BQ946757.1 GI:22362235

```
BASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                              3052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2512 CCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCGGATGC 2571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
  AGGGGTGGCAGACGATGTGGTG----
                                                                                                                                                                                                     CCCGGCCCTCCGTTAGCCAGCGGATCCTGCGGCGCCACGGCCCAGCGCCCCGACCAAGAGCC 323:
                                                                                                                                                                                                                                                                                                          TCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCCCGG 317:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCATAATGCCAGGCTACCGGCATGTGTACCTAGAAGGGGATGGAAGAGGCCTCTATCTTTG 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGGAGGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCG 2931
                                                                                                       AGAAGCCGGGCCGCAGGGGCTTCCCGGAGCTGGTCCTGGGTACACGGGACACAGGCTCCA 329:
                                                                                                                                                                CCCGGCCCTCCGTTAGCCAGAGGCTCCTGCGGCGCACGGCCAGTGCCCCGACCAAAAGCC
                                                                                                                                                                                                                                                                          TCTTCCTCCGAGGCACAAAGCCAGGCTCGCTGGACAGTCATGCTGGACAGCCCCCTCC 660
                                                                                                                                                                                                                                                                                                                                                                                    TTCATGTGGCTGTCAGTGACATTAGTGGTAAGGTCAAGCAGACTCTGGGTCTANAAGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                               TGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAAAGGCC 3111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCG 305:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTGGGACCATGACCCCATTGGACGTGACTTCATCGGCCAGAGGACACTAGCCTTCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCA 2991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGTGGACTGCAGCAGGAGCAGACCCGAGTGGTGGACGACAACGGATTCAACCCCATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGTGGACTGCAGCAGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCTGGGCGACCGTGGGAGATCATCGACCCCTTCGTGGAGGTGGAGGTCATTGGGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCTGGGGGACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGAAGCAGCTGGCCCTGAGGATCATCAGTGGCCAGCAGCTGCCCAAACCACGGGACTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACTCCA 2751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGCATGTGCCAGGGTGTCTTCAACCCCCAACTCGGAGGATCCCCTGCCGGGGCAGCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGTGCATGTGCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCA 2691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TACAGCTGAACAGGGCCAAGTTCAGCGCCAACGGTGACTGTGGCTACGTGCTCAAACCCC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGAAGCCAAGTCGCAAGGGCTTCCCAGAGCTGGCCCTGGGCACACAGGACGCAAGGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               747;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone="IMAGE:6466785"
/clone_lib="MIH_MGC_94"
/clone_lib="MIH_MGC_94"
/tissue_type="retina"
/hab host="DH10B (phage-resistant)"
/note="Organ: eye; Vector: pCMV-SPORT6; Site_1: NotI;
/site_2: SalI; Cloned unidirectionally; oligo-dT primed.
Average insert size 3.3 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
a 268 c 272 g 155 t 1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        organism="Mus musculus"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           85.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 647; DB 14;
Pred. No. 1.8e-117;
0; Mismatches 121;
-CCCCCGGGCCCGGACCTGCTCCGGAAGCCCC 3346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 889;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
```

Ś 밁

밁

Д

Ś

Ş

밁 Ś Ś

밁 Ś

멍

Дb

8 맑 Ş 밁 S

Ś 밁 Ş

멍 Ş 밁

밁 Ş 밁 S

GAAAGGGGGCAGCTGATGACGTGGGCACCCTCTAGCCCCAACCCCAGCTCTGGGAGCCCC

```
RESULT 2
BQ960462
밁
                                       Š
                                                                                В
                                                                                                                     Ş
                                                                                                                                                                밁
                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                          2080 AGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGCCAAGCAGACGCAATG 2139
                                         2320
                                                                                                                                                                                                         2200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3347 AGCCC---AGGAGGGGCCCGGCAGCCGCCAGCCCCCG
                                                                                                                                                                                                                                                                                           2140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                165 TGGCCAGCGTGGAAGAGGGGGACGAGACCCTGGACTCCCCAGGAAGCCAGAGCCGAGGGA
                                                                                                                                                                                                                                                  105
                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity hes 700; Conserv
                                                                                                                                                                                                                                                                                                                                  45
  CCAAGTCTGTGGGGACCCATGACGTGGAGATAGAGGTGGTATCTAGCTGGCAGGTGTCGT
                                                                                                            CGACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACA 2319
                                    CCAAGTCCGTGGCCACCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGT
                                                                                CTGCCCGGCAAAAGAAGACCATGAAGCTGTCACGAGCCCTCTCGGACCTAGTGAAATATA
                                                                                                                                                                                                       CGGCCAGCGTGGAGGGAGGGATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGGGG 2259
                                                                                                                                                                                                                                                GCCGCCTCTTCATGAGCAGCTTCTCCAAGCGCAAGAAAAAAGGCAGCAAGATAAAGAAGG
                                                                                                                                                                                                                                                                                           TTACCTCAAGAGAGGTCAGGGCAGCAGCCCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Email: cgapbs-r@mail.nih.gov
Tissue Procurement: The Cepko Laboratory
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unpublished (1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGENCOURT_8930277 NIH_MGC_94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Plate: LLAM13990 row: o column: 04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BQ960462.1 GI:22375940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BQ960462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 930)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                quality sequence stop:
                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /lab_host="DH10B (phage-resistant)"
/note="Organ: eye; Vector: pcMV-SPORT6; Site_1: Not1;
Site_2: Sall; cloned unidirectionally; oligo-dT primed.
Average insert size 3.3 kb. Library enriched for full-length clones and constructed by Life Technologies.
Note: this is a NIH MCC Library."

267 c 292 g 148 t 1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone_lib="NIH_MGC_94"
/tissue_type="retina"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Mus musculus"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             clone="IMAGE:6466491"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . 930
                                                                                                                                                                                                                                                                                                                                                                                                                                      13.2%;
86.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 610.4; DB 14; Pred. No. 3.1e-110;
                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches 111;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                634.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                musculus cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                            930;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST 21-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                   ω
--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IMAGE: 6466491
                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                284
                                                                                                                                                                224
                                                                                                                                                                                                                                                  164
                                                                                                                                                                                                                                                                                           2199
                                                                                                                                                                                                                                                                                                                                                                                                                   2
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 3
BG472146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2380
                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTTCAGCGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCCTACGCT 2439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACTCAAGCCTGGGTGCATGTGCCAGGGCGTGTTCAACCCCCAACTCGGAGGACCCCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCAACCAGCACCAGCTCTCGCGCATATACCCCTCCTACCGTGTGGACTCCAGCAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCAACCAGCAGCAGCTCTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCAACT 2499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTCAACCCCATGTGGGGAGGAGACACTGGTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCATT-GGGCTCCCTGTGGACTGCAGCAGGGAGCAGACCCCGCGTGGTGGACGACAACGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACGGGACTCGGTGCTGGGCGACCGTGGGGGAGATCATCGACCCCTTCGTGGAGGTGGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGCGACTCCATGCTGGGGGACCGTGGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGA 2799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGGGCAGCTCAAGAAGCAGCTGGTGCTCCCGATCATCAGTGGCCAGCAGCAGCTTCCCAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGGGGCGGATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACAATCCACAACCCTTCTGGAACGCTGGTTGCCCAGATGGTTGCCCTGAACTACCAGTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --TTCAACCCCACCTGGGAGAGACCCCTGGTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCATTGGGGCTCCCCGTGGACTGCAGCAAGGAGCAGACCCGAGTGGTGGACGACAACGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGGGCAGCTCAAGAAGCAGCTGGCCCTGAGGATCATCAGTGGCCAGCAGCAGCCAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGCTCAAACCCCAGTGCATGTGCCAGGGTGTCTTCAACCCCAACTCGGAGGATCCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGGGCGGÀTGCTACAGCTGAACAGGGCCÀAGTTCAGCGCCÀACGGTGACTGTGGCTACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      602513869F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:4645721 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BG472146.1 GI:13404520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BG472146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                   found through the I.M.A.G.E. Consortium/LLNL Plate: LLCM1419 row: i column: 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Robert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NIH-MGC http://mgc.nci.nih.gov/
National Institutes of Health, I
                                                                                                                                                                                                                                                                                                                                                                                                                                    cDNA Library Preparation: Ling Hong/Rubin Laboratory CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 malia; Eutheria;
(bases 1 to 759)
                                                                                                                                                                                                                                                                                                  quality sequence stop: 683.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 t: Robert Strausberg, Ph.D. cgapbs-r@mail.nih.gov
/organism="Homo sapiens"
/db xref="taxon:9606"
/clone="IMAGE:4645721"
/clone_lib="NIH MGC_16"
/clone_lib="NIH MGC_16"
/tissue_type="retinoblastoma"
/tissue_type="retinoblastoma"
/lab_host="DH10B (phage-resistant)"
/lab_host="DH10B (ybage-resistant)"
/lab_host="DH10B (ybage-resistan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         759 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Collection (MGC)
                                        1: XhoI; Site_2:
                 Directionally
                                                                                                                                                                                                                                                                                                                                                                                                            image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST 21-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            824
```

```
BASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                    KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                           rocas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BG394794
                                                      COMMENT
                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                           VERSION
                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                         AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2795 GGAGATCATTGGGCTCCCTGTGGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAA 2854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGGTTCAACCCCACCTGGGAGAGCCCTGGTTTTCATGGTGCACATGCCGGAGATCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACGCTGGCCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCTGGTCCGCTTCCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGAGATCATTGGGCTCCCTGTGGACTGCAGCAGGAGCAGACCCGCGTGGTGGACGACAA 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCTGGGCGGCCCCGGGCCCGCCTTAGCCAGCGGATCCTGCGGCGCACGGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGAGGCCTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGAGGCCTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGGTAAGGTCAAGCAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACGCTGGCCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTGGTCCGCTTCCTCGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGGTTCAACCCCACCTGGGAGAGACCCCTGGTTTTCATGGTGCACATGCCGGAGATCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCGGAAGCCCCAGCCCAGGAGGGGCCCCGGCAGCCGCCCCGAGTTAGG 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCGGGCCCCGGACCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCCCCGACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTCCCCGGAGCTGGTCCTGGGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCCCGACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTCCCCGGAGCTGGTCCTGGGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              recresecescocos de contra de caso de la recreso de la recr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCCGGCTCGCTGGACAGTCATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  590;
                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 1016)
                                                                                                                                                                                                                                                                                                                                                                                                                             602457129F1 NIH_MGC_16 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             h 12.7%;
Similarity 99.7%;
                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                           BG394794
                                                   Contact: Robert Strausberg, Ph.D
                                                                           Unpublished (1999)
                                                                                                         NIH-MGC http://mgc.nci.nih.gov/
National Institutes of Health,
                                                                                                                                                                                                                                                                                                                                        BG394794.1
                                                                                                                                                                                                                                                                                                                                                                          BG394794
                                                                                                                                                                                                                                                                                                                                                                                                  mRNA sequence.
                                                                                                                                                                                                                                                                                        human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
cgapbs-r@mail.nih.gov
Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cloned into EcoRI/XhoI sites using the following 5' adaptor: GGCACGAG(G). Library constructed by Ling Hong in the laboratory of Gerald M. Rubin (University of California, Berkeley) using ZAP-cDNA synthesis kit (Stratagene) and Superscript II RT (Life Technologies). Note: this is a NIH MGC Library."
                                                                                                                                                                                                                                                                                                                                           GI:13288242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   248 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 588.8; DB 12;
Pred. No. 5.4e-106;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               256 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                           .016 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      107 t
                                                                                                                  Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                      cDNA clone
                                                                                                                     Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                linear EST 12-mu
Lone IMAGE:4579663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                  Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 759;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST 12-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                         ű
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
```

```
BASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best|Local
                                                                                                                                                                                                         1760
                                                                                                                                                                                                                                                                                                          1700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                   1820
                                                                                                                                                                                                                                                                                                                                                                                                                640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1400
                                                                                                                                                      482
                                                                                                                                                                                                                                                          422
                                                                                                                                                                                                                                                                                                                                                                362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N
                                                                                                                                                                              ATCAGTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGAT
                                                                                                                                                                                                                                                                                     CCAGCAGAAGAAAATGGCCCAGTATCTGACTGACTGCTTGGGGGACAAGCTGGACCTGTC 1755
                                                                                                                                                                                                                                                                                                                                                                                                TGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCCACTGCAGTGTCAT 1699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATA 1639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGGTGACCAGCTCATGTCCCCAGTCACGGGTGGACATGTATGCTTGGGTCCTGCAGGCTGG 1519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCA 1399
GTGTCTGA 1885
                                                                                CCTCGTGAAGGGGAAGAAGCTCCCAGCC-AACATCAGCGAGGATGCGGAGG-AAGGCGAG
                                                                                                                                                 ATCAGTGAGCAGTGAAGATGCCAGCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGAT
                                                                                                                                                                                                                                                       CCAGCAGAAGAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTC
                                                                                                                                                                                                                                                                                                                                                           TGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAAACCACTGCAGTGTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAAACCATCAACAAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGCCGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCA 1579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCATCTGCCACCA 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAGTTAGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCAC 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCAC 1339
                                           CCTCGTGAAGGGGAAGAAGCTCCCAGCCAAACATCAGCGAGGATGCGGAGGAAAGGCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGCCGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCA 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTCCTGCAGGCTGG 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         604;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cDNA Library Preparation: Ling Hong/Rubin Laboratory CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   High quality sequence stop: 599.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Plate: LLCM1297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone_lib="NIH_MGC_16"
/tissue_type="retinoblastoma"
/lab_most="PHIOB (phage-resistant)"
/lab_most="PHIOB (phage-resistant)"
/note="Organ: eye; Vector: pOTB7; Site_1: XhoI; Site_2:
/cloned into EcoRI/XhoI sites using the following 5'
adaptor: GGCACGAG(G). Library constructed by Ling Hong
in the laboratory of Gerald M. Rubin (University of
California, Berkeley) using ZAP-cDNA synthesis kit
(Strateagene) and Superscript II RT (Life Technologies).
Note: this is a NIH_MGC Library."

24 a 302 c 247 g 143 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /db_xref="taxon:9606"
/clone="IMAGE:4579663"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   row: i column: 08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 580.8;
Pred. No. 2.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .2e-104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1016;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                             601
                                                                                                                                                 541
                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
```

В

S 밁

밁 Ś Ş

В Ş В

덩 Ş

GTGTCTGA

밁 S 밁 ş 밁 8 밁 Ś 밁 Ś

```
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
멍
                                   Ś
                                                                            밁
                                                                                                                                                         뫄
                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 5
BG819793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Snoor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 637;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                 2702
                                                                                                                                                                                                                                                                                2642
                                                                                                                                                                                                                                                                                                                                                             2583
                                                                                                                                                                                                                                                                                                                                                                                                                       2523 GCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGGGGATGCTGCAGCTGAAC 2582
                                                                                                                                                           184
                                                                                                                                                                                                                                           124
                                                                                                                                                                                                                                                                                                                       64
                                                                                                                                                                                                                                                                                                                                                                                                  4 GCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGGGGATGCTGCAGCTGAAC 63
                                                                                                                                                                                                                                                                                                                                            CGAGCCAAGTTCA-GCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTTGGGTGCATGTG 2641
                                 GCAGCAGGGAGCACCCGCGTGGTGGACGACCAACGGGTTCAACCCCACCTGGGAGGAGA 2880
                                                                                                                  ACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACT 2820
                                                                                                                                                         GGTGCTCCGGATCATCAGTGGCCAGCATGCTTCCCAAGCCGCGCGACTCCATGCTGGGGG
                                                                                                                                                                                               GGTGCTCCGGATCATCAGTGGCCAGCA-GCTTCCCAAGCCGCGCGACTCCATGCTGGGGG 2760
                                                                                                                                                                                                                                                                                CCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGCT
                                                                                                                                                                                                                                        CCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGCT
                                                                                                                                                                                                                                                                                                                     CGAGCCAAGTTCACGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTGCATGTG 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         High quality sequence stop: 649.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 663)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Plate: LLAM10858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tissue Procurement: David N. Louis, M.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Email: cgapbs-r@mail.nih.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BG819793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        602781835F1 NCI_CGAP_Brn67 Homo sapiens cDNA clone IMAGE:4932488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 found through the I.M.A.G.E. Consortium/LLNL http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BG819793.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5', mRNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BG819793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /lab_host="DH10B (T1 phage-resistant)"
/note="Organ: brain; Vector: pCMV-SPORT6; Site 1:
Site_2: Sal1; Cloned unidirectionally. Primer: Ol
Average insert size 2.3 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
a 199 c 212 g 119 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /tissue_type="anaplastic oligodendroglioma with 1p/19q
loss"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /db_xref="taxon:9606"
/clone="IMAGE:4932488"
/clone_lib="NCI_CGAP_Brn67"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . .663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GI:14167380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  row: f column: 09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 570.4;
Pred. No. 2.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vob
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           đđ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2.2e-102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     663;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Site 1: NotI;
imer: Oligo dT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EST 22-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
363
                                                                                                                                                                                                                                           183
                                                                                                                                                                                                                                                                              2701
                                                                          303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>ب</u>
```

```
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 6
BE255177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
  뭉
                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                      2814 GTGGACTGCAGCAGGGGGGAGACCCCGCGTGGTGGACGACGACGACGGGTTCAACCCCACCTGG 2873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCGAGGCCCAAAGCCC--GGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCCCGGCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTGTCAGTGACA--TCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAAAAGGCCTCTTCC 3117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCACTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGGCTACAGACACGTGTACCTAGAAGGGGATGGAAGAGGCCTCCATCTTCGTGCA-TGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGATCCCATCGGCCTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGC 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCCTTCCTCGGGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGTCAGTGACAATCAGCGAGTAAGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCC
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HE255177
561 bp mRNA linear EST 13-JUL-2000
601115717F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3356069 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Robert Strausberg,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BE255177.1 GI:9125614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            found through the I.M.A.G.E. Consortium/LLNL at: image.llnl. Plate: LLCM161 row: b column: 06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cDNA Library Preparation: Ling Hong/Rubin Laboratory CDNA Library Arrayed by: The I.M.A.G.B. Consortium (LLNL) CNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can be
                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 561)
                                                                                                                                                                                              101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            quality sequence stop: 559
                                                                                       Conservative
                                                                                                                                                                                       /clone_lib="NIME 1356069"
/clone_lib="NIME 16"
/clone_lib="NIH_MGC_16"
/tissue_type="retinoblastoma"
/lab_host="DH108 (phage-resistant)"
/lab_host="DH108 (phage-resistant)"
/lab_host="DH108 (phage-resistant)"
/lab_nost="DH108 (phage-resistant)"
/lab_nost="DH108 (phage-resistant)"
/lab_nost="Norted by oligo-dT priming. Directionally
cloned into EccRI/XhoI sites using the following 5'
cloned into EccRI/XhoI sites using the following 5'
adaptor: GGCACGAG(G). Library constructed by Ling Hong
in the laboratory of Gerald M. Rubin (University of
California, Berkeley) using ZAP-cDNA synthesis kit
(Stratagene) and Superscript II RT (Life Technologies).
Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                organism="Homo sapiens"
                                                                                                         11.9%;
                                                                                                       Score 550; DB 10;
Pred. No. 2.3e-98;
                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ph.D.
                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gene
                                                                                                                             Length
                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3059
```

```
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 7
BE255354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
                                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCCTTCCTCGTC 2933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGCCCTCCGTTAGCCAGCGGATCCTGCGGCGACGGCCAGCGCCCCGACCAAGAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCCTAAAAGGCCTC 3113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGGGTGGCAGACGATGTGGTGCCCCCCGGGCCCGGACCTGCTCCGGAAGCCCCAGCCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGCCGGGCCGCAGGGGCTTCCCGGAGCTTGGTTCCTGGGTACACGGGACACAGGCTTCCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGGATGGAAGAGGCCTCCATCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGGGGCCCGGCAGCC 3375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGGGTGGCAGACGATGTGGTGCCCCCCCGGGCCCCGGACCTGCTCCGGAAGCCCCAGCCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAAAAGGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGGGGCCCGGCAGCGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGCCGGGCCGCAGGGCTTCCCGGAGCTGGTCCTGGGTACACGGGACACAGGCTCCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGCCCTCCGTTAGCCAGCGGATCCTGCGGCGCACGACCAGCGCCCCGACCAAGAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCCCGGCC
                                                                                                                                                                                                                                                                                                                                                                                       Bukaryota; Metazoa; Chordata; C
Mammalia; Butheria; Primates; C
1 (Dases 1 to 801)
NIH-MGC http://mgc.nci.nih.gov/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601115369F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3355889 5',
                                                                                                                                                                                                                                                                                                                                                       National Institutes of Health,
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BE255354.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BE255354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BE255354
                                                                                                                                                                                                                                                                                                  Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                   Contact: Robert Strausberg, Ph.D
                                                                                                                                                                                                     DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: image.llnl.
                                                                                                                                                                                    Plate: LLCM160 row: j column: 18
                                                                                                                                                                                                                                                           CDNA Library Preparation: Ling Hong/Rubin Laboratory CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
                                                                                                                                                              quality sequence stop: 576.
/organism="Homo sapiens"
/db xref="taxon:9606"
/clone="IndAgE:335889"
/clone_lib="NIH_MGC_16"
/tissue_type="retinoblastoma"
/lab_host="DH10B (phage-resistant)"
/note="Organ: eye; Vector: pOTB7; Site_1: XhoI; Site_2:
                                                                                                                                                 ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GI:9125792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     801 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                            Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST 13-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  239
                                                                                                                                                                                                             .gov
```

BASE C

Query Best | I

ş

```
ACCESSION
VERSION
                                                                                                                                                 EM903836
  SOURCE
ORGANISM
                                       KEYWORDS
                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 675;
                                                                                                                                                                                                                                                                                                 1947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1299 GAAAACAAGAGTAAGGGGCTGCGGGCATTGATGGCTTCACCAACTACACCAG-GAGCCC 1357
                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        597
                                                                                                                                                                                                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Match
                                                                                                                                                                                                                                                                                   AATCGAAAGCGTGTAG---AAAACACTGCTAAGAGGAAACTGGATTCCCTCATCA 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAAGATGCCACC-ACACTCCCCTCTCCACAGATGCTCAAGGGCCAAGATCCTCGTGA-AGG 1830
                                                                                                                                                                                                                                                                                                                                                                 AGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAAT-GGGGATGCATCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                      GGAAGAAGCTCCCAGC-CAACATCAGCGAGGATGC-GGAGGAAGGCGAGG-TGTCTGATG 1887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCCAGTATCTGAC-TGACATCCTTGGGGACCAAGCTGGACCTGTCATCAGTGAGCA--GT 1772
                                                                                                                                                                                                                                                                                                                                    AGGACTGTGCTGATGAGATTGACGATGACTGCGTGCTCCTCAATGGGGGGATGCATCCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAAGATGCCACCAAAACTCCCCTCTCCACAGATGCTCAAGGGCCAGATCCTCGTGACAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCCAGTATCTGACTTGACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAAGTG 479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAG-CAGAAGAAAATG 1715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCCTTCATCAAGAATG 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCCTTCATCAAGAATG 1656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTTGCACCATGGGTACACTCTGACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGACTGCTGGGATGGGCCCGACGGGGAGCCCATTG-TGCACCATGGCTACACTCTGACTT 1596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGCCACTACTTCATCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTC 1477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGACATGACGCAGCCGCT 1417
                                                                                                                                                                                                                                                    AATCGCAAGCGGGTAGCACAACAACTGGCAACGACGAGACTGGGTTCCCCCCATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGCCACTACTTCATCACCTCGTCCCACACACCTACCTCGTGGGTGACCAGCTCATGTC 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGACATGACGCAGCCGCT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAACTACACCAGTGAGCCC
Homo
                                         EST.
                                                             BM903836.1 GI:19353598
                                                                                   5', mRNA sequence.
BM903836
                                                                                                              1002 bp
AGENCOURT_6695882 NIH_MGC_67 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  മ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ECORI; cDNA made by oligo-dT priming. Directionally cloned into EcoRI(XhoI sites using the following 5' adaptor: GGCACGAG(G). Library constructed by Ling Hong in the laboratory of Gerald M. Rubin (University of California, Berkeley) using ZAP-cDNA synthesis kit (Stratagene) and Superscript II RT (Life Technologies). Note: this is a NIMEC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 514.6; DB 10; Pred. No. 2.4e-91;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            213 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                       sapiens cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                801;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16;
                                                                                                                       EST 12-MAR-2002
E IMAGE:5492312
                                                                                                                                                                                                                                                    714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              299
                                                                                                                                                                                                                                                                                                                                                                              1946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13;
```

Ś 밁 Ś В Ş 밁 Ş В S В á В

멍

Ś 멍 Ś 뭥 Ś 멍 Ś 밁 Ş

밁

ş

```
밁
                                                                             S
                                                                                                                        밁
                                                                                                                                                             Ş
                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
TITLE
5
                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                 2486
                                                                                                                                                                                                                                                 2426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2186 CAAGCTGAAGAAGGCGGCCAGCGTGGAAGGAGGAATGAGGGTCAGGACTCCCCGGGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2126 CAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCTTCTCCAGGCGCAAGAAGAAGAAGGCCAG 2185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2066 AAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTCGGGGTCTGGGGAGGATGCCGGGGC 2125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                           481
                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ۲
                                           TGAACTACCCAGTCAAAGGGGCGGGATGCTTGCACCTGAACCGAAGCCCAGGTCCAGCGC
                                                                               TGAACTA-CCAGTCAGAGGGGGGG--ATGCTGCAGCTGAACCGA--GCCAAGTTCAGCGC
                                                                                                                                                               GGACTCCAGCAACTACAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAAT-GGTTGCCC
                                                                                                                                                                                                      GCAGTACCTACGCTTCAACCAGCAGCAGCTCTCCCGCATCTACCCCTCCTCCTACCGTGT
                                                                                                                                                                                                                                    CTGGCAGGTGTCGTCCTTCAGCGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGC
                                                                                                                                                                                                                                                                                                                                                                        CCTGGTGAAGTACACCAAGTCCGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAG
                                                                                                                                                                                                                                                                                                                                                                                                  CCTGGTGAAGTACACCAAGTCCGTGGCCACCCACGACATAGAGATGGAGAGCGGCGTCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAGAGCCGAGGGGCGACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGA
                                                                                                                                                                                                                                                                                        CTGGCAGGTGTCGTCCTTCAGCGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAGAGCCGAGGGGCGACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCTTCTCCAGGCGCAAGAAGAAGAAGGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGC 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          530;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Plate: LLAM12114 row: d column: 09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: cgapbs-r@mail.nih.
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (Dases 1 to 1002)

NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDNA Library Preparation: Life Technologies, Inc. CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        quality sequence stop:
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone_lib="NIH_MGC_67"
/tissue_type="retinoblastoma"
/lab_host="DH108 (phage-resistant)"
/note="Organ: eye; Vector: pCMV-SPORT6; Site_1: Not1;
Site_2: Sal1; Cloned unidirectionally. Primer: Oligo
Average insert size 1.75 kb. Library constructed by
Technologies."
343 g 140 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:5492312"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .1002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 478; DB 14;
Pred. No. 4.4e-84;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                               2485
                                                                                                                                                                                                                                                                                        360
                                         540
                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  dT.
Life
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BM932679/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Locus
맑
                                  S
                                                                                     밁
                                                                                                                                                                        밁
                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                           2809
                                                                                                                                                                                                                    2689 TCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACT 2748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                             577
  457
                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAACGG 546
                                TCCCTGTGGACTGCAGGAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCA 2868
                                                                                                                            CCATGCTGGGGGACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGC 2808
                                                                                                                                                                             TCAAGAAGCAGNTGGCCGTGAGGATCATCAGTGGCCAGCAGCTGCCCAAACCACGAGACT 518
                                                                                                                                                                                                                                                             511;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BM932679 577 bp mRNA linear EST 1 UI-M-CGOp-bnl-h-03-0-UI.rl NIH_BMAP_Ret4_S2 Mus musculus UI-M-CGOp-bnl-h-03-0-UI 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 (bases 1 to 577)
Bonaldo, M.F., Lenno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BM932679.1 GI:19391831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Genetics (www.resgen.com).
Seq primer: M13 REVERSE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: mEST@mail.nih.gov
Tissue Procurement: Dr. Xin-Yuan Fu, Yale University School
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tel: 301 443 1706
Fax: 301 443 9890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6001 Executive Blvd. Room 7N-7190, MSC 9643, 20892-9643, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Chin, H
National Institute of Mental Health
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97044477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genome Res. 6 (9), 791-806 (1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               discovery
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Normalization and subtraction: two approaches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cDNA Library preparation: Dr. M. Bento Soares, Univeristy of Iow CDNA Library Arrayed by: Dr. M. Bento Soares, Univeristy of Iowa DNA Sequencing by: Dr. M. Bento Soares, Univeristy of Iowa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Clone Distribution: Researchers may obtain clones from Research
                                                                                                                                                                                                                                                                                                                                                                            107
                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="Vector: pT/T3D-Pac (Pharmacia) with a modified polylinker; Site_1: Not I; Site_2: Eco RI; The NIH BMAP Ret4 S2 library is a subtracted library, ultimateTy derived from mouse retina tissue libraries at various stages of development. For a detailed description of the library from which this clone was derived, please visit our web site at brainest eng.uiowa.edu. The tissue
                                                                                                                                                                                                                                                                                                                                                                            for this library was contributed by Dr. Xin-Yuan Fu, Yale
University School of Medicine"
176 c 167 g 126 t 1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /db_xref="taxon:10090"
/clone="UI-M-GG0p-bnl-h-03-0-UI"
/clone lib="NIH BWAP Ret4 S2"
/lab_host="DH10B (Life Technologies)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /strain="C57BL/6J"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                       88.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lennon, G. and Soares, M.B.
                                                                                                                                                                                                                                                                                                            10.2%;
                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                          167 g
                                                                                                                                                                                                                                                                                                            Score 472.6; DB 14;
                                                                                                                                                                                                                                                                                         Pred. No. 4.4e-83;
                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                  65;
                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                            Length 577;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bethesda,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Univeristy of Iowa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         facilitate gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EST 11-APR-2002
                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cDNA clone
                                                                                                                                                                                                                                                                    Gaps
                                                                                          458
                                                                                                                                                                                                                                                                       0
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BM950299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2869 CCTGGGAGGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCC
                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGCCCGGCCCTCCGTTAGCCAGCGGATCCTGCGGCGCACGGCCAGCGCCCCGACCAAGA 3228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCC 3168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TETEGGAGAGACACTEGTETTCACCGTGCACATGCCAGAGATTGCGCTTGTACGCTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCAGAAGCCAAGTCGCAAGGGCTTCCCAGAGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCAGAAGCCGGGCCGCAGGGGCTTCCCCGGAGCTGG 3264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCCCCCGGCCCTCCGTTAGCCAGAGGCTCCTGCGGCGCCACGGCCAGTGCCCCGACCAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCTCTTCCTCCGAGGCACAAAGCCAGGCTCGCTGGACAGTCATGCTGCTGGACAGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGTTCATGTGGCTGTCAGTGACATTAGTGGTAAGGTCAAGCAGACTCTGGGTCTAAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAGCATAATGCCAGGCTACCGGCATGTGTACCTAGAAGGGATGGAAGAGGCCTCTATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTCTGGGACCATGACCCCATTGGACGTGACTTCATCGGCCAGAGGACACTAGCCTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BM950299 733 bp mRNA linear EST 14-WAR-2-
UI-M-EH0p-but-n-17-0-UI.rl NIH_BMAP_EH0p Mus musculus cDNA clone
IMAGE:5686864 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tissue Procurement: Dr. James Lin, Univeristy of Iowa CDNA Library preparation: Dr. M. Bento Soares, Univeristy of Iowa CDNA Library Arrayed by: Dr. M. Bento Soares, Univeristy of Iowa DNA Sequencing by: Dr. M. Bento Soares, Univeristy of Iowa Clone Distribution: MGC Clone distribution information can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                  found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Robert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mammalia; Eutheria;
1 (bases 1 to 733)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BM950299.1
                                                                                                                                                                                                                                                                                                                                                                                                                          This clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                               primer: pYX-5
/Clone lib="NIH BMAP EHOP"
/clone lib="NIH BMAP EHOP"
/tissue type="whole brain"
/dev stage="embryo 18.5 dpc"
/lab host="DH108 (T1 phage resistant)"
/note="Organ: brain; Vector: pYX-Asc; Site_1: EcoR I;
/note="Organ: brain; Vector: pYX-Asc; Site_1: EcoR I;
/site_2: Not I; The library was constructed according to
Bonaldo, Lennon and Soares, Genome Research, 6:791-806,
1996. Denatured mRNa was size fractionated on a 1% agarose
gel. First strand cDNA synthesis was primed with an
oligo-dT primer containing a Not I site. Double stranded
                                                                                                                                                                                                                                        /db_xref="taxon:10090"
/clone="IMAGE:5686864"
                                                                                                                                                                                                                                                                                    organism="Mus musculus"
/strain="C57BL/6"
                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GI:19433889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear EST 14-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus.
```

cDNA was size selected according to mRNA size fraction

```
LOCUS BB430723 BB430723 RIKEN full-length enriched, adult male hippocampus
                                                                                                                                              밁
                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                     BB430723
                                                                        RESULT
                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3116 CCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCCCCGGGCCCG 3175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3176
                                                                                                                                              718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                              GTTCGTTCACAAGCTG
                                                                                                                                                                                                                                                                         CCGCTGGCCTGAGGGTGCCTGCAGGCAACCGGGGGGCCCTGCAGGGAGAGATGAGTGCCTT 3829
                                                                                                                                                                                                                                                                                                                                                                CGGCTCCATGTCCTCGGACTCCAGCAGCCCAGACAGCCCCGGGCATCCCCCGAAAGGTCCCC 3769
                                                                                                                                                                                                                                                                                                                                                                                                            AGGGAGAAGCAAAGAGCCCCCAAGGGTCCTANGGCTCGGCGAGGGTCCAGGCG---G 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGGAGAAGCAGAGAGGCCCCCAAGGGTCCTGGGGGCCTGGAGGCAGGGTCCAGGCGGTAG 3709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGGGAGCAACCAGCCCTGGGCCTGCAGGCCACATGGCCATCAGCCATCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCCTCCGTTAGCCAGCGGATCCTGCGGCGCCACGACCAGCGCCCCGACCAAGAGCCAGAA 3235
                                                                                                                                                                                     GTTTGCTCAAAAGCTG 3845
                                                                                                                                                                                                                               CGGCTCTGTGTCCTCGGACTCCAGCAGCCCAGACAGCCCAAGCCCCAAGGTGGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGGGCCCGGGTAGATTCACTGGGGGGCCCTTGCTGCAGCCCAAGTCCTCGAGCCACCCC 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGGGCCCGGGCTGACTCACTGGGGGCCCCCTGCTGTGGCCTTGGACCCTCACGCTATCCC 3649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCCACATGCATGAAGTGTGTGGTGGGCTCCTGCGCCGGTATGGACGTTTGAGGGCCTTCA 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCCACATGCATGAAGTGTGTGGTGGGATCCTGCGCCGGGGTGAACACCGGGGGCCTGCA 3529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACACTGGCACAGGTGCGGTCCCCAAATGCCCCCGAAGGCCCTGGACCTGCAGGGATGGC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGCCCTGTGCGAGTGCGGCCCCCGCGTGTCCTGGACGGCCCCGGGCCTGCTGGGATGGC 3469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAGGTCAGGCAGCAGCCCCCGAGGTAAGGCACCAGGAGGAGAAGCAACAGAAGAGAG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGGGCCCGGCAGCCAGCCCCGAGGTAAGGCGCCAGCTGCGGTGGC-----AGAGAA 3409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGCAGCTGATGACGTGGCACCCTCTAGCCCCAACCCAGCTCTGGAGGCCCCTACTCAAGA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGTGGCAGACGATGTGGTGCCCCCCGGGCCCGGACCTGCTCCGGAAGCCCCAGCCCAGGA 3355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCAAGTCGCAAGGGCTTCCCAGAGCTGGCCCTGGGCACACAGGACGCAGGCTCCGAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCGGGCCGCAGGGCTTCCCCGGAGCTGGTCCTGGGTACACGGGACACAGGCTCCAAGGG 3295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCCTCCGTTAGCCAGAGGCTCCTGCGGCGCACGGCCAGTGCCCCGACCAAAAGCCAGAA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTCCGAGGCACACAGCCAGGCTCGCTGGACAGTCATGCTGCTGGACAGCCCCTCCCCCG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           581;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ligated with EcoR I adaptor, digested with Not I, and then cloned directionally into pyx-Asc vector. The library tag sequence located between the Not I site and the polyA tail, is CAGCCACCAC. This library was created for the University of Iowa Mouse Brain Molecular Anatomy Project (BMAP): 'Gene Discovery in the Developing Mouse Nervous System', supported by National Institute of Mental Health (NIMH), Hemin Chin, Ph.D., program coordinator."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10.0%;
                                                                                                                                           733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 465; DB 14;
Pred. No. 1.5e-81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 733;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                           EST 31-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N
```

```
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) Yamanaka,I., Kiyosawa,H., Kondo,S., Saito,T., Shinagawa,A., Aizawa,K., Fukuda,S., Hara,A., Itoh,M., Kawai,J., Shibata,K., Arakawa,T., Ishii,Y. and Hayashizaki,Y. Mapping of 19032 mouse cDNAs on mouse chromosomes. J. Struct. Func. Genomics 2 pre, L72-L86 (2001) Please visit our web site (http://genome.gsc.riken.go.jp/) for further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K., Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000)
wagi, K., Fujiwake, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E., Watahiki, M., Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Matsuura X., S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arakawa, T., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hiramoto, K., Hori, F., Ishii, Y., Ito, M., Kawai, J., Konno, H., Kouda, M., Koya, S., Matsuyama, T., Miyazaki, A., Nomura, K., Ohno, M., Okazaki, Y., Okido, T., Salto, R., Sakai, C., Sakai, K., Sano, H., Sasaki, D., Shibata, K., Shinagawa, A., Shiraki, T., Sogabe, Y., Suzuki, H., Tagawa, A., Takahashi, F., Takeda, Y., Tanaka, T., Toya, T., Muramatsiw and Maramata, T., Toya, T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   prepare mouse tissues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tel:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Laboratory for Genome Exploration Research Group, RIKEN Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              On Jul 18, 2000 this sequence version replaced gi:9270450 Contact: Yoshihide Hayashizaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RIKEN Mouse ESTs (Arakawa, T., et al. 2001)
Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 (bases 1 to 696)
Arakawa, T., Carninc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            musculus cDNA clone C630034J05 3', mRNA sequence.
BB430723
BB430723.2 GI:15412030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sequencing pipeline with 10 (11), 1757-1771 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hayashizaki,Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: genome-res@gsc.riken.go.jp,
URL:http://genome.gsc.riken.go.jp/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fax: 81-45-503-9216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan
Tel: 81-45-503-9222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Muramatsu, M. and Hayashizaki, Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Y. and Hayashizaki,Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Computer-based methods for the mouse full-length cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Konno, H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RIKEN integrated sequence analysis (RISA) system--384-format
                       /note="Site_1: XhoI; Site_2: BamHI; cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory
                                                                                                                                             /tissue_type="hippocampus"
/dev_stage="adult"
/lab_host="SOLR"
                                                                                                                                                                                                                                                                                                                                                                          /strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="C630034J05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                               /clone_lib="RIKEN full-length enriched,
                                                                                                                                                                                                                                                                'sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fukunishi,Y., Shibata,K., Itoh,M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . 696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    384 multicapillary sequencer. Genome Res.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Carninci, P., Sugahara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RIKEN
```

in

```
BASE COUNT
                                                                                                  RESULT 12
BG299246
            ACCESSION
VERSION
                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 555;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1830
                                                                                                                                                                                                                                                                                                                                           2070
                                                                                                                                                                                                                                                                                                                                                                                                             2010
                                                                                                                                                                                                                                                                        2109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           154
                                                                                                                                                                                                                                       634
                                                                                                                                                                                                                                                                                                         574
                                                                                                                                                                                                                                                                                                                                                                           514
                                                                                                                                                                     694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCCTTCATC 1649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGAATGAGTACCCAGTGATCCTGTCCATTGAGAACCNCTGTAGTGTTGTTCAGCAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAGCAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGACCTCCAAGATCCTTTTCAAAGATGTCATCGAAACCATCAACAAATACGCCTTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCCTCATCAAAGAGTCGAAG 2009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGTGAAGATGCCACCACACTCCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGATGGCCCAGTATCTGACTGACATCCTCGGGGACAAGCTGGACCTCTCCTCAGTGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGC 1769
                                                                                                                                                                     CGC
                                                                                                                                                                                                       CGC 2171
                                                                                                                                                                                                                                                         GGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCTTCTCCCAGG
                                                                                                                                                                                                                                                                                                                                        CTCGGACGCA-----
                                                                                                                                                                                                                                                                                                                                                                           ATCCGTGACTGTGAAGACCCCAATGACTTCTCTGTGTCCACACTATCCCCCCTCTGGAAAG
                                                                                                                                                                                                                                                                                                                                                                                                   ATTCGGGACTGTGAGGACCCCAACAACTTCTCCGTCTCCACACTGTCCCCCATCTGGAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGAAGCGTGTGGAAAACATTGCAAAGAAGAAGCTGGATTCTCTGATCAAGGAGTCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACAGTGCTGATGAGATGGAGGATGACTGCAAGCTCCTCAATGGGGGATGCCTCCACCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCCACCAAT 1949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGGAAGAAGCTCCCTGCCAATATCAGTGAGGATGCAGAAGAAGGCGAAGTATCTGATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAG 1889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCGAAGATGCCCCCATGCTTCCATCTCCACAGATGCTCAAGGGCAAGATCCTGGTGAAG
                                                                                                                                                                                                                                       GGGGAAGACAGCGGGGTGAGCAGGCAGAATAGCCGCCTCTTCATGAGCAGCTTCTCCAAG
                                                                                                                                                                                                                                                                                                         CTTGGGCGCAAAGCAGAGGCCAAGAAGGTCAGAGGTTGAGGAAGACGTGGAGGCC
BG299246
BG299246.1 GI:13064707
EST.
                                                            602395735F1 NIH_MGC_94 Mus musculus cDNA clone IMAGE:4507377
                                                 mRNA sequence.
                                                                                  BG299246
                                                                                                                                                                     696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ρı
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       prepared by using trehalose thermo-activated reverse transcriptase and subsequently enriched for full length by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        175 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   °.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 462; DB 10;
Pred. No. 5.7e-81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       202 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                     711 bp
                                                                                                                                                                                                                                                                                                                                           AGAGCAAGGCTGAAGAGGACGTGGAGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        134 t
                                                                                       mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 696;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22;
                                                                                         EST 21-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                     513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    153
                                                                                                                                                                                                                                                                                                                                                                                   573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1709
                                                                                                                                                                                                                                                                             2168
                                                                                                                                                                                                                                                                                                               633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2;
```

δ

394

S 밁 Ś 밁

454

á 밁 ঠ 밁 S 밁

KEYWORDS

Ś 밁 Ś 뭕 Ş

밁

334

밁 Ş 밁 Ş 밁 Ś

1590

```
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
Ś
                                          밁
                                                                              Ş
                                                                                                                             밁
                                                                                                                                                                 S
                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 595;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2168 GCGCAAGAAGAAGGCCAGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGGGAGATGAGGG 2227
                                                                                                                                                                                                                                                                                                                                              2408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                        2468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2288
  2648 CGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGCTGGTGCT 270
                                                                                                                                                                                                                                                                                                                                                                                                                                   2348
                                                                                                                               371
                                                                                                                                                                                                                                                                                                   252
                                                                                                                                                                                                                                                                                                                                                                                        192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12 GCACAGAAAAAAAGGCAGCAAGATTATGAAGGTGGCCAGCGTGGAAGAGGGGGGACGAGAC 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              72
                                                                                                                                                                                                                                                                                                                              TCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCCAACCAGCAGCAGCAGCTCTCCCCGCATCTA
                                                                                                                                                                                                                                                                                                                                                                                                                   GATGGAGGCGGCGTCCAGCTGGCAGGTGTCCTTCCAGCGAGACCAAGGCCCACCAGAT 2407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCCCGGGCCCTCTCTGACCTGGAAGTACACCAAGTCCGTGGCCACCACGACATAGA
                                          CAAGTTCAGCGCCAACGGTGACTGTGGCTACGTGCTCAAACCCCAGTGCATGTGCCAGGG 488
                                                                                CAAGTICAGCGCCAACGGIGGCIGCGCTACGIACTCAAGCCIGGGIGCAIGIGCCAGGG 2647
                                                                                                                           TTGCCAGATGGTTGCCCTGAACTA-CAGTCAGAGGGGGGGGATGCTACAG-TGAACAGGGC
                                                                                                                                                                   CCCCTCCTACCGTGTGGACTCCAGCAACTACAATCCACA-ACCTTCTGGAACGCTGG
                                                                                                                                                                                                                                                      CCCCTCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCCCTTCTGGAACGCCGG 2527
                                                                                                                                                                                                                                                                                                     CCTGCAGCAGAAGCCCACCCAGTACCTGCGCTTCAACCAGCACCAGCTCTCGCGCATATA
                                                                                                                                                                                                                                                                                                                                                                                        GATAGAGGTGGTATCTAGCTGGCAGGTGTCGTCCTTCAGTGAGACCAAGGCCCATCAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTCACGAGCCCTCTCGGGACCTAGTGAAATATACCAAGTCTGTGGGGGACCCATGACGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTGGACTCCCCAGGAAGCCAGAGTTGAGGGACTGCCCGGCAAAAGAAGAACCATGAAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (bases 1 to 711)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 High
High
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Plate: LLAM10384 row: e column: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: cgapbs-r@mail.nih.gov
Tissue Procurement: The Cepko Laboratory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               quality sequence start: 4 quality sequence stop: 660.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone="IMAGE:4507377"
/clone lib="NIH MGC 94".
/tissue_type="retina"
/lab host="DH:0B (phage-resistant)"
/note="Organ: eye; Vector: pCMV-SPORT6; Site 1: Not1;
/note="Organ: eye; Vector: pCMV-SPORT6; Site 1: Not1;
Site 2: Sall; Cloned unidirectionally; oligo-dT primed.
Average insert size 3.3 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH MGC Library."
a 204 c 211 g 116 t 1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /db xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9.8%;
84.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches 101; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 456.4; DB 12; Pred. No. 7.3e-80;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                    2467
                                                                                                                                      428
                                                                                                                                                                                                                         370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       131
                                                                                                                                                                                                                                                                                                                                                                                                 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7;
```

```
RESULT 13
BB624082
LOCUS
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCA 2868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACGAAGCAGACCCGAGTGGTGGACGACTACGGAATTCAACCCA 710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGGATCATCAGTGGCCAGCAGCTGCCAAAG-CAAGGGACTCGGTGCTGGGCGACCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGACTCCATGCTGGGGGACCGTGG 2767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCT-CCCTGTGGACTGC--AG 2824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTCTTCAACCCCAACTCGGAGGATCCCCTG-CGGGGCAGCTCAAGAAGCAGCTGGCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K., Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000)

Wagi, K., Fujiwake, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E., Watahiki, M., Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Matsuura, S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 667)

Arakawa, T., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hiramoto, K., Hori, F., Ishii, Y., Ito, M., Kawai, J., Konno, H., Kouda, M., Koya, S., Matsuyama, T., Miyazaki, A., Noura, K., Ohno, M., Okazaki, Y., Okido, T., Saito, R., Sakai, C., Sakai, K., Sano, H., Sasaki, D., Shibata, K., Shinagawa, A., Shiraki, T., Sogabe, Y., Suzuki, H., Tagami, M., Tagawa, A., Takahashi, F., Takeda, Y., Tanaka, T., Toya, T., Miyazamatem, M., and Universitati
                                                                                                Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome Sequences. Mamm. Genome. 12, 673-677 (2001)
                                                                                                                                                                                       encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) Kondo, S., Shinagawa, A., Saito, T., Kiyosawa, H., Yamanaka, I., Aizav, K., Fukuda, S., Hara, A., Itoh, M., Kawai, J., Shibata, K. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sciences Center (GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-
Tel: 81-45-503-9222
                        further details.
e mouse tissues
                                                                                                                                                                                                                                                                                                                                                                                          sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 1757-1771 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hayashizaki,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: genome-res@gsc.riken.go.jp, URL:http://genome-gsc.riken.go.jp/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fax: 81-45-503-9216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Laboratory for Genome Exploration Research Group, RIKEN Genomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Yoshihide Hayashizaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RIKEN Mouse ESTs (Arakawa, T., et al. 2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Muramatsu, M. and Hayashizaki, Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BB624082 RIKEN full-length enriched, adult male emusculus cDNA clone 7530433C13 5', mRNA sequence
                                                                                                                                                                                                                                                                                                   Y. and Hayashizaki,Y. Computer-based methods for the mouse full-length cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BB624082.1 GI:16462692
                                                                        Please visit our web site (http://genome.gsc.riken.go.jp) for
                                                                                                                                                                                                                                                                                                                                                               Konno, H., Fukunishi, Y., Shibata, K., Itoh, M., Carninci, P., Sugahara
                                                                                                                                                                                                                                                                                                                                                                                                                                                   RIKEN integrated sequence analysis (RISA) system--384-format
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                667 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yokohama, Kanagawa 230-0045, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RNA linear EST 26-OCT-2001 adult male eyeball Mus
                                                                                                                                                                                                            ., Aizawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           606
                                             밁
                                                                                                                                                            밁
                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       606 TCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAGG 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     546 GTGGAGCGGTGCATGGGTGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGC 605
                                                                                             AACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGAC 1085
                                                                                                                                                                                                            GACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTC
                                                                                                                                                                                                                                                                     AGCCTAGCCCGTCGCCAGCGTACCAGGGACCAGTGGCTGAAGCAGACGTTTGATGAGGCT 536
                                                                                                                                                                                                                                                                                                                           AGCCTGGCTCGCCGCCAGCGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCC 965
                                                                                                                                                                                                                                                                                                                                                                                    GTGGCGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGAC 905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCAGCATCTACCATGGCAGCCACAGAGAGTCGCTGGACTTGGTCTCACCCAGCAGTGAA 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAG 845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCCGGCAGTCTGAAATCTTCCAGCGCTACCCGGACAGCAGCTTTGACCCCAACTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGCCAGCTTCGACCCCAACTGCTGC 785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGGAGCGATGCATGCATGCAAGAGGGGACCCAGATGGTGAAGCTCCGTGGCAGC 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCAAGGGATTGGTCCGCTTCTACTACCTGGATGAGCACCGCTCCTGCCTCCGATGGCGT 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    489;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BamHI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 contributed to prepare mouse tissues. 1st strand cDNA was primed with a primer [5' GAGAGAGAGAGGACCAAGAGCTCTTTTTTTTTTTTTTVN 3'], cDNA was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3']. cDNA was cloned into the XhoI and BamHI sites. Vector: a modified pBluescript KS(+) after bulk excision from Lambda FLC I. Cloning sites, 5' end: SalI; 3' end:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          eyeball"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="Site_1: Sall; Site_2: BamHI; cDNA library was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /dev_stage="adult"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   organism="Mus musculus"
/strain="C57BL/6J"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tissue_type="eyeball"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone_lib="RIKEN full-length enriched, adult male
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9.7%;
88.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           187 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 451.8; DB 1
Pred. No. 5.8e-79;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     212 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
```

113 t

DB 10;

Indels Length 667;

0 Gaps

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BE908459
                                                                                                                          Ś
                                                                                                                                                                        B
                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                뭥
                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Snoor
맑
                                  Ş
                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                           1172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       657 CATTAGGGGAC
                                                                                                                                                                             187
                                                                                                                                                                                                                                                                127
                                                                                                                                                                                                                                                                                                            992
                                                                                                                                                                                                                                                                                                                                                                                               933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     873 CGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCAGCGCACCAGG 932
                                                                                                                                                                                                                                                                                                                                                        67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Match 9.0%;
Local Similarity 99.5%;
                                                                                                                                                                             GAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGTTTTGAAGA 246
                                                                                                                                                                                                         GAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGTTTTTGAAGA 1111
                                                                                                                                                                                                                                                                  CATTGGCGAGGTCCTGCAGCTGCACAAGCTCAACGTGAACCTGCCCCGGCAGAGGGT 186
                                                                                                                                                                                                                                                                                                       CATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCCCCGGCAGAGGGT 1051
                                                                                                                                                                                                                                                                                                                                                        GACCAAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGGATGGCAGCCTGAG
                                                                                                                                                                                                                                                                                                                                                                                               GACC-AGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGGATGGCAGCCTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCTACCTCATGGGCGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCAGCGACCAGG 66
                                                                                                                     GTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTCATGCTGAC 1171
                                              CTACAGCAACCACGACGACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGA 1231
  CTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGA
                                                                                     GTTCTGTGCCTTCTACAAGATGATGTCCACCCGGCGGGACCTCTACCTGCTCATGCTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     428;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 (bases 1 to 436)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BE908459.1 GI:10403059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601503091F1 NIH_MGC_70 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plate: LLAM9711 row: e column:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       quality sequence stop: 433.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ည
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /db_xref="taxon:9606"
/clone="IMAGE:3904894"
/clone="IMAGE:3904894"
/clone="IMAGE:3904894"
/clone="ID="NIH MGC_70"
/tissue type="epithelioid carcinoma"
/lab_host="DH10B (phage-resistant)"
/note="Organ: pancreas; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: SalI; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 1.1 kb. Library constructed by Life Technologies."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  129 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 416.4; DB 12; Length 436; Pred. No. 5.1e-72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                138 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             436 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  69 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cDNA clone IMAGE:3904894 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ۲,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST 20-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BB652903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGCCCAGAA 1301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTTGAGCC 1291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGCCCAGAA 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 (bases 1 to 714)
Arakawa,T., Carninci,P., Fukuda,S., Furuno,M., Hanagaki,T., Hara,A. Hiramoto,K., Hori,F., Ishii,Y., Ito,M., Kawai,J., Konno,H., Kouda,M., Koya,S., Matsuyama,T., Miyazaki,A., Nomura,K., Ohno,M., Okazaki,Y., Okido,T., Saito,R., Sakai,C., Sakai,K., Sano,H., Sasaki,D., Shibata,K., Shinagawa,A., Shiraki,T., Sogabe,Y., Suzuki,H., D., Shibata,K., Shinagawa,A., Shiraki,T., Sogabe,Y., Suzuki,H., Tagami,M., Tagawa,A., Takahashi,F., Takeda,Y., Tanaka,T., Toya,T., Muramatsu,M. and Hayashizaki,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Email: genome-res@gsc.riken.go.jp,

URL:http://genome.gsc.riken.go.jp/

Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K., Itoh
,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y.

Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new
genes. Genome Res. 10 (10), 1617-1630 (2000)

wagi,K., Fujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,E.,
watahiki,M., Yoneda,Y., Ishikawa,T., Ozawa,K., Tanaka,T., Matsuura
,S., Kawai,J., Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A. and
Hayashirativ
                                                                                                                                                                                                                                                                                                                encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) Yamanaka, I., Kiyosawa, H., Kondo, S., Saito, T., Shinagawa, A., Aizawa, K., Fukuda, S., Hara, A., Itoh, M., Kawai, J., Shibata, K., Arakawa, T., Ishii, Y. and Hayashizaki, Y.

Mapping of 19032 mouse cDNAs on mouse chromosomes. J. Struct. Func. Genomics 2 pre, L72-L86 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tel: 81-45-503-9222
Fax: 81-45-503-9216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BB652903.1 GI:15402902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  musculus cDNA clone C630034J05 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BB652903 RIKEN full-length enriched, adult male hippocampus Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BB652903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Yoshihide Hayashizaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 1757-1771 (2000) (Konno, H., Fukunishi, Y., Shibata, K., Itoh, M., Carninci, P., Sugahara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hayashizaki,Y.
                                                                                                                                                                                                                                                          further details
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Computer-based methods for the mouse full-length cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Y. and Hayashizaki, Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RIKEN integrated sequence analysis (RISA) system -- 384-format
                                                                                                                                                                                                                                                                                            Please visit our web
                              /db_xref="taxon:10090"
/clone="C630034J05"
                                                                                                                             /organism="Mus musculus"
                                                                                                                                                                                          Location/Qualifiers
/clone_lib="RIKEN full-length enriched,
                                                                                       strain="C57BL/6J"
                                                                                                                                                                                                                                                                                            site (http://genome.gsc.riken.go.jp) for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   714 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST 31-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Murinae; Mus.
```

```
BASE COUNT
Search completed: March 28,
Job time : 6869 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Simi
Matches 446;
                                                                                                                                                           027
                                                                                                        670
                                                                                                                                                                                                                                                              967
                                                                                                                                                                                                                                                                                                              551
                                                                                                                                                                                                                                                                                                                                                               907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              607
                                                                                                                                                                                                                                                                                                                                                                                                                  491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                      ACAAAAAC-GGGACGGGAGCCTGAGCATCAGGGAGGGTCTGGAGCTGCTACATAAACTCA
                                                                                                                                                                                                                                                                                                         GCCTAGCCCGTCGCCAGCGTACCAGGGACCAGTGGCTGAAGCAGACGTTTGATGAGGCTG
                                                                                                                                                                                                                                                                                                                                            GCCTGGCTCGCCGCCAGCGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCG 966
                                                                                                                                                        ACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGAT 1060
                                                                                                                                                                                                                                              ACAAGAACGGGGATGGCAGCCTGAGCATTGGCGGAGGTCCTGCAGCTGCTGCACAAGCTCA 1026
                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGCGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACA 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGG 846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCCAACTGCTGCT 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAAGGGATTGGTCCGCTTCTACTACCTGGATGAGCACCGCTCCTGCCTCCGATGGCGTC 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGAGCGGTGCATGGGTGCCATGCAAGAGGGGGATGCAGATGGTGAAGCTGCCTGGCGGCT 606
                                                                                                     ACGGGAACCTGCCCGGGCGAGGGGAAACAAAGGT 703
                                                                                                                                                                                                                                                                                                                                                                                                          TCAGCATCTACCATGGCAGCCACAGAGAGTCGCTGGACTTGGTCTCACCCAGCAGTGAAG 490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCGGCAGTCTGAAATCTTCCAGCGCTACCCGGACAGCTTTGACCCCAACTGCTGCT 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAAGGGCCTGGTCCGCTTCTACCTGCACGAGCACCGCTCCTGCATCCGCTGGAGGC 666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGAĞCGATĞCATĞAĞTĞCCATĞCAAĞAĞĞĞACCCAĞATĞĞTĞAAĞCTCCGTĞĞCAĞCT 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  prepared by using trehalose thermo-activated reverse transcriptase and subsequently enriched for full-length by cap-trapper. Second strand cDNA was prepared with the primer adapter of sequence [5' GAGAGAGAGATTAATTAATTAATCCCCCCCCCCCC 3']" a 223 c 223 g 108 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contributed to prepare mouse tissues. 1st strand cDNA was primed with a primer [5' GAGAGAGAGAGACCCAAGAGCTCTTTTTTTTTTTTTTTVN 3'], cDNA was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /tissue_type="hippocampus"
/dev_stage="adult"
/lab_host="SOLR"
/lab_host="SOLR"
/note="Site_1: XhoI; Site_2: BamHI; cDNA library was
/note="Solenced in Mouse Genome Encyclopedia
Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in
RIKEN. Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hippocampus"
/sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     86.8%;
                        2003, 18:26:34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             °.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 394.8; DB 10; Length 714;
Pred. No. 1.1e-67;
0; Mismatches 67; Indels 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1; Gaps
                                                                                                                                                                                                                                                                                                            610
                                                                                                                                                                                                                                                                                                                                                                                                            550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1;
```

밁 Ś

á В 8

Ś

В Ş 맑

Ş 밁

밁 Ś 밁 5 В á 밁

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    o o
                                                                                                                                                                                                      O
                                                                                                                                                                                                                                                     a
        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                              11176
7776
7766.4
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
449.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              March 28, 2003, 12:21:40 ; Search time 168 Seconds (without alignments) 8460.993 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  441362 seqs, 153338381 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IDENTITY NUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 tcgcgatctagaactagtgg.....ggtaacggggcccagccccg 4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-927-112-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Issued_Patents_NA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                     1.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /cgn2_6/ptcdata/1/ina/5A_COMB.seq:*
/cgn2_6/ptcdata/1/ina/5B_COMB.seq:*
/cgn2_6/ptcdata/1/ina/6B_COMB.seq:*
/cgn2_6/ptcdata/1/ina/6B_COMB.seq:*
/cgn2_6/ptcdata/1/ina/PCTUS_COMB.seq:*
/cgn2_6/ptcdata/1/ina/backfiles1.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length DB
  US-08-138-641-1
US-08-138-133-1
US-08-138-133-3
US-08-138-133-3
US-08-138-133-3
US-08-232-463-14
US-09-738-884-3
US-09-249-855A-4
US-09-130-114-2
US-09-130-114-2
US-09-130-114-2
US-09-130-114-2
US-09-130-114-6
US-08-459-5448A-6
US-08-459-5448-6
US-08-459-286-1
US-09-220-528-6
US-09-220-528-6
US-09-220-528-6
US-09-220-528-6
US-09-211-6268-15
US-08-459-5448A-4
US-08-459-5444-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
                                                                                                                                                                                                Sequence 3, A Sequence 14, A Sequence 2, A Sequence 6, A Sequence 7, A Sequence 1, A Sequence 2, A Sequence 2, A Sequence 3, A Sequence 3, A Sequence 4, A Sequence 5, A Sequence 6, A S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Description
                          Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
  68, Appl
69, Appl
1, Appli
2, Appli
2, Appli
15, Appl
15, Appli
4, Appli
4, Appli
4, Appli
4, Appli
4, Appli
                                                                                                                                                                                                                                                                                   1, Appli
3, Appli
3, Appli
3, Appli
3, Appli
14, Appli
9, Appli
9, Appli
6, Appli
6, Appli
6, Appli
6, Appli
7, Appli
```

D 64	3 H O	US-							RESULT US-08-1		c)
1403 963	Query M Best Lo Matches	TY MOLE MOLE MOLE	TELE TE TE INFORM	ATTC ATTC RE	CURR SC AF	COME SI SI SI	CORR ST	ACENERA APPI APPI TITI TITI	SULT 1 -08-138-641 Sequence 1,	444 442 443 443	1 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	298
0-0	Match Local Simi es 292;	LENGTH: 3870 base TYPE: nucleic aci- STRANDEDNESS: sin TOPOLOGY: linear MOLECULE TYPE: cDNA -138-641-1	TELECOMMUNICATION INFORMATELEPHONE: (908) 594-373 TELEFAX: (908) 594-473 TELEFAX: ESO IN NO: SECUENCE CHARACTERISTICS:	CLASSIFICATION: 435 CTASSIFICATION: 435 ATTORNEY/AGENT INFORMATION: NAME: Muthard, David A. REGISTRATION NUMBER: 35,297 REFERENCE/DOCKET NUMBER: 1897	COMPUTER: IBM PC OPERATING SYSTEM: SOFTWARE: Patent RRENT APPLICATION APPLICATION NUMBE	STATE: New COUNTRY: U ZIP: 07065 COMPUTER READ MEDIUM TYPE	CORRESPONDENCE ADDRE CORRESSE: David STREET: P.O. Box CITY: Rahway	GENERAL INFORMATION: APPLICANT: KODIAn, APPLICANT: Pomplia TITLE OF INVENTION: TITLE OF INVENTION:	-641-1 e 1, App	4444 6666 4 4 6444 6644	44444 00000 100000000000000000000000000	444
GAACCC	larit Conse	3870 base cleic acio ESS: sino linear PE: cDNA	CATION (908) (908) DR SEQ	TION: INT INF Chard, CON NUM	ER: IBM PCING SYSTEM: RE: PatentI APPLICATION ATION NUMBER	· At S	DENCE ADDRI EE: David P.O. Box	ATION: Koblan, Koblan, Pomplia Pomplia	olicati	1.0 1.0 1.0 1.0		
GCTGAGG	3. y 62. rvative	base pai e acid single lear cDNA	INFORMAT) 594-39 594-4720 ID NO: ID NO:	435 ORMATI David DBER:	IBM PC compatible YSTEM: PC-DOS/MS- PatentIn Release # CATION DATA: NUMBER: US/08/13	sey FORM:	SS A. 20	ii aa k	A 1-1 , Application US/08138641	3468 3468 3468 3468 3468 1236		3468 3468 7218
0A) 	7.00	rg.	1ATIO 3903 120 1:	A. 35, 2	DOS/ DOS/ leas	F:	9 : Muthard 00, 126 I	eth avid AY T	0813	3 C C C C C C C C C C C C C C C C C C C	- 22 - 22 - 1	سمبر
CATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCGCACAACACCTACCT	Score 176 Pred. No. 0; Mismat		, 3 N:	297 18937	00S			cenneth S.), David L.), DAVID L. PHOSPHOINOSITIDE-SPECIFIC	ALIGNE 8641	US-08-459-48A-2 US-08-459-595A-2 US-08-459-504B-2 US-08-459-444-2 US-09-053-549-3 US-09-47-422-2 US-08-440-856A-1 ALIGNMENTS	US-08-343 US-08-462 US-08-946 US-08-343 US-08-343 US-08-462 US-08-946 US-07-951	US-09-053 US-09-547 US-08-232
CCTCGTCC	.4; I 1.7e- ches				Version #1.		Lincoln Avenue	NE INHIBITORS	0 0	-448A-2 -595A-2 -504B-2 -444-2 -549-3 -422-2 -856A-1	-715A-2	-549-5 -422-4 -463-14
CACAACACCT)B 1; Lengt 27; 171; Indel				. 25		ē	TORS OF PHOSPHOLIPASE				
PACCTCGTG	th 3870; ls 3;									Sequence Sequence Sequence Sequence Sequence Sequence	sequence sequence sequence sequence sequence sequence sequence	Sequence Sequence Sequence
GG 1462	Gaps							С-GAMMA		+000000	22277	744
	1;									سر دنز دنز دنز دنز دنز	ر منو منو منو منو منو منو ا	J P

۲.

```
US-08-138-133-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-138-133-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1, Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                        INFÓRMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                         TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                   MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: KOBLAN, KENNETH S.
APPLICANT: MACLEOD, ANGUS M.
APPLICANT: MERCHANT, KEVIN J.
TITLE OF INVENTION: INHIBITORS OF PHOSPHOINOSITIDE-SPECIFIC
TITLE OF INVENTION: PHOSPHOLIPASE C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1380 GATTAAGCATAAGAAGCTGGCTGAGGGCAGTGCCTATGAGGAGGTG 1425
                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1023
                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1823 CGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAG 1868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1583 CTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGC 1642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1523 CCGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGAGCCCATTGTGCACCATGG 1582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE: N
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET:
CITY: R
                                                                                                                                                                                                                                           NAME: MUTHARD, DAVID A. REGISTRATION NUMBER: 35
                                                                                                                                                                                                                                                                                                     FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER:
                                                                                                                                                                                 TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCCAAGATCCT 1822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTTCGTAGCCTCAGAGTACCCTGTCATCCTGTCCATCGAGGACCACTGCAGCATTGCCCA 1262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCA 1702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCACACCCTCACCAAGATTAAGTTCTCAGATGTCCTGCACACCATCAAGGAGCACGC 1202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGTGGACATTGCCGCTG---ATGGGCTCCCTTCTCCCAACCAGCTCAAGAGGAAGATCCT 1379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCAGAGGAACATGGCCCAGCACTTCAGGAAGGTGCTCGGTGACACGCTCCTCACCAAGCC 1322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATC 1762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCGCTGCATCGAGTTGGACTGCTGGGATGGGCCAGATGCCAGTCATTTACCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SSEE: DAVID A. MUTHARD
T: P.O. BOX 2000, 126 E. LINCOLN AVENUE
RAHWAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NEW JERSEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Application US/08138133
                                                                                                                                                         (908) 594-3903
(908) 594-4720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GIBBS, JACKSON B.
                                                                                                                                                                                                                                                                                                          514
                                                                                                                                                                                                                                                                                                                                                                                     Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                 US/08/138,133
                                                                                                                                                                                                                                       35,297
                                                                                                                                                                                                                          18938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1142
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-138-641-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 3, Application US/08138641 Patent No. 5474921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 292;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                         TELEFAX: (908) 594-4720 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                         SEQUENCE CHARACTERISTICS:
                                                                                                      REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
                                                                                                                                               CLASSIFICATION: 435
ATTORNBY/AGENT INFORMATION:
NAME: Muthard, David A.
REGISTRATION NUMBER: 35,297
                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA: APPLICATION NUMBER: US.
                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Pompliano, David L.
TITLE OF INVENTION: ASSAY TO DETERMINE INHIBITORS OF
TITLE OF INVENTION: PHOSPHOINOSITIDE-SPECIFIC PHOSPHOLIPASE C-GAMMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1380 GATTAAGCATAAGAAGCTGGCTGAGGGCAGTGCCTATGAGGAGGTG 1425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1823 CGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAG 1868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1763 AGTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCT 1822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1083 TCGCTGCATCGAGTTGGACTGCTGGGATGGGCCAGATGGGATGCCAGTCATTTACCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1403 CATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCCTACCTCGTGGG 1462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET:
TTY: Rahway
                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                    TELEPHONE:
                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCA 1702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGTGGACATTGCCGCTG----ATGGGCTCCCTTCTCCCAACCAGCTCAAGAGGAAGATCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCAGAGGAACATGGCCCAGCACTTCAGGAAGGTGCTCGGTGACACGCTCCTCACCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATC 1762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTTCGTAGCCTCAGAGTACCCTGTCATCCTGTCCATCGAGGACCACTGCAGCATTGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCACACCCTCACCACGAGATTAAGTTCTCAGATGTCCTGCACACCATCAAGGAGCACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAAACCATCAACAAATATGC 1642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGG 1582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CATGAACAACCCACTGTCTCACTATTGGATCTCTTCCTCGCATAATACGTATCTGACTGG 1022
                                                                                                                                                                                                                                                                                                                                                                                                                      07065
3893 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P.O. Box 2000, 126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                        USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Koblan, Kenneth S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             David A. Muthard
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Jersey
                                                                                      (806)
                                                                                                                                                                                                                                                                                                                                                                      Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3.8%;
                                                                                      594-3903
                                                                                                                                                                                                                                                               US/08/138,641
                                             ω..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches 171; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 176.4; DB 1; Pred. No. 1.7e-27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 3870;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ω
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1142
```

1.

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-138-641-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-138-133-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity Matches 292; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sequence 3, Application US/08138133
Patent No. 5519163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1403 CATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCCTACCTCGTGGG 1462
                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Flopy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/138,133
                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID A. MUTHARD
                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: GIBBS, JACKSON B.
APPLICANT: KOBLAN, KENNETH S.
APPLICANT: MACLEOD, ANGUS M.
APPLICANT: MERCHANT, KEVIN J.
TITLE OF INVENTION: INHIBITORS OF PHOSPHOINOSITIDE-SPECIFIC
TITLE OF INVENTION: PHOSPHOLIPASE C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1380 GATTAAGCATAAGAAGCTGGCTGAGGGCAGTGCCTATGAGGAGGTG 1425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1523
                     ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                    STREET: P.O. CITY: RAHWAY
                                    FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGTGAAGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAG 1868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTTCGTAGCCTCAGAGTACCCTGTCATCCTGTCCATCGAGGACCACTGCAGCATTGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCACACCCTCACCACCAAGATTAAGTTCTCAGATGTCCTGCACACCATCAAGGAGCACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGC 1642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGG 1582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CATGAACAACCCACTGTCTCACTATTGGATCTCTTCCTCGCATAATACGTATCTGACTGG 1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGTGGACATTGCCGCTG---ATGGGCTCCCTTCTCCCAACCAGCTCAAGAGAAGAACATCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGAGCAGTGAAGATGCCACCACACTCCCCCTCTCCACAGATGCTCAAGGGCCAAGATCCT 1822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCAGAGGAACATGGCCCAGCACTTCAGGAAGGTGCTCGGTGACACGCTCCTCACCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCA 1702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCGCTGCATCGAGTTGGACTGCTGGGATGGGCCAGATGGGATGCCAGTCATTTACCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 07065
MUTHARD, DAVID A.
                                                                                                                                                                                                                                             NEW JERSEY
                                                                                                                                                                                                                                                                                                           P.O. BOX 2000, 126 E. LINCOLN AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                            514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3.8%; Score 176.4; DB 1; Length 62.7%; Pred. No. 1.7e-27; rative 0; Mismatches 171; Indels
                                                                                                                         #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 3893;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ω
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1262
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-138-133-3
                                                          US-09-738-884-3
                                                                                                                                                                                                                                                                                                                                                                                        US-09-738-884-3
                                                                                                                                                                                                                                                                                                                               ; GENERAL INFORMATION:
                                                                        SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 3
SEQ IT: 13953
TYPE: DNA
ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                               Sequence 3, Application US/09738884
Patent No. 6391606
                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/09/738,884
CURRENT FILING DATE: 2000-12-18
NUMBER OF SEQ ID NOS: 5
                                                                                                                                                                                                                              APPLICANT: GUEGLER, Karl et al TITLE OF INVENTION: ISOLATED HUMAN PHOSPHOLIPASE PROTEINS, TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING HUMAN PHOSPHOLIPASE TITLE OF INVENTION: PROTEINS, AND USES THEREOF FILE REFERENCE: CL000849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (908) 594-4720 INFORMATION FOR SEQ ID NO: 3 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REGISTRATION NUMBER: 35,297
REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION | 1908) 594-3903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 3893 base p
TYPE: nucleic acid
STRANDEDNESS: singl
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3.8%; Score 176.4; DB 1; Local Similarity 62.7%; Pred. No. 1.7e-27; les 292; Conservative o. wire--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GATTAAGCATAAGAAGCTGGCTGAGGGCAGTGCCTATGAGGAGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAG 1868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGTGAGCAGTGAAGATGCCACCACACTCCCCCTCTCCACAGATGCTCAAGGGCAAGATCCT 1822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGC 1642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCGCTGCATCGAGTTGGACTGCTGGGATGGGCCAGATGGGATGCCAGTCATTTACCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGCTGCGTGGACGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGG 1582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CATGAACAACCCACTGTCTCACTATTGGATCTCTTCCTCGCATAATACGTATCTGACTGG 1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAGAAGAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATC 1762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTTCGTAGCCTCAGAGTACCCTGTCATCCTGTCCATCGAGGACCACTGCAGCATTGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAAACCACTGCAGTGTCATCCA 1702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCACACCCTCACCACCAAGATTAAGTTCTCAGATGTCCTGCACACCATCAAGGAGCACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCAGAGGAACATGGCCCAGCACTTCAGGAAGGTGCTCGGTGACACGCTCCTCACCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGTGGACATTGCCGCTG---ATGGGCTCCCTTCTCCCCAACCAGCTCAAGAGGAAGATCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3893 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  single
1.7%;
74.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18938
  Score
Pred.
77.2; DB 4;
No. 6.6e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   171; Indels
                  Length 13953;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 3893;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ω
-:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1322
```

```
Ś
                                    В
                                                                    ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-232-463-14/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                             US-08-232-463-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 14, Application US/08232463 Patent No. 5670367
                                                                                                           Matches
                                                                                                                         Best Local
                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: DORNER
                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO:
2124 GCCAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCTTCTCCAGGCGCAAGAAGAAGGGC 2183
                                 6309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6249
                                                                                                                                                                                                           IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 30-
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: SCHEIFLINGER, F.
APPLICANT: FALKNER, F. G.
TITLE OF INVENTION: RECOMBINANT FOWLPOX VIRUS
                                                                    2064 GGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAGGATGCCGGG 2123
                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6369 CATGCCTTCA 6378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1638 TATGCCTTCA 1647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1578 CATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAA 1637
                                                                                                                                                                                                CLONE:
                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                      TYPE:
                                                                                                                                                                                                                                                                                   LENGTH:
                                                                                                                                                                                                                                                                                                                                                     TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: BENT, Stephen A. REGISTRATION NUMBER: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGATGCCGCTGCGTGGAGCTGGACTGCTGGGAGGGGCCAGGAGGGGAGCCCGTCATCTAT 6308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CATGGCCATACCCTCACCTCCAAGATTCTCTTCCGGGACGTGGTCCAAGCCGTGCGCGAC 6368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCTGCCGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCAC 1577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97;
                                                                                                                      Similarity 3.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alexandria
                                                                                                                                                                                                                                                                nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22313-0299
                                                                                                                                                                                                                                                                                                                                        899149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ¥
                                                                                                                                                                                            pTZgpt-F1s
                                                                                                                                                                                                                                                                                 7218 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3: Foley & Lardner
1800 Diagonal Road, Suite 500
                                                                                                                                                                                                                                                                                                                                                         (703)683-4109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
                                                                                                       Conservative 226; Mismatches 151; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DORNER, F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                           (703)836-9300
                                                                                                                                                                                                                                                single
                                                                                                                        1.3%; Score 59; DB 1; Length 7218; 3.6%; Pred. No. 0.0032;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EP 91 114 300.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US/07/935,313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US/08/232,463
                                                                                                                                                                                                                                                                                                                                                                                                             30472/114 IMMU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Gaps
                                                                                                       Gaps
                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

```
Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                           US-08-440-856A-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-440-856A-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 9, Application US/08440856A Patent No. 5750873
       Matches
                                       Query Match
                                                                                                                                                                                                   TELEX: 706141
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                           MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: 05
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 887-1517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1072 RRRRRATCGCAAGCTCCCTCGACCTGCAGC 1042
                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: DELLAPORTA, STEPHEN L.
TITLE OF INVENTION: MATERIALS AND METHODS FOR PRODUCING TITLE OF INVENTION: PLANTS WITH SINGLE-SEX FLOWERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2424 GCGCAGTACCTACGCTTCAACCAGCAGCAGC 2454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2304 GACCTGGTGAAGTACACCAAGTCCGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCC 2363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2244 GGCCAGAGCCGAGGGGCGACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCT 2303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2184 AGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGGAGGTGAGGGTCAGGACTCCCCCGGGA 2243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP:
Local Similarity les 147; Conserv
                                                                                                            TOPOLOGY:
                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: FILING DATE: 15-MA
                                                                                                                                                                                                                                                                                                                                                                                                                                    OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                      TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET:
                                                                                                                                                                 LENGTH:
                                                                                                                                                                                                                                                                                                              REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                               NAME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCTGGCAGGTGTCGTCCTTCAGCGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20037
                                                                                                                                              nucleic acid
                                                                                                                                                                                                                                                                                                                             MILLMAN, ROBERT A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D.C
                                                                                                                                                               1288 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000 PENNSYLVANIA AVE. N.W
                                                                                                                                                                                                                                        (202) 887-0763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 USA
     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                       IBM PC compatible SYSTEM: PC-DOS/MS-DOS
                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MORRISON & FOERSTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                 15-MAY-1995
                                                                                                                               both
 1.1%; Score 51.6; DB 1; Length 1288;
42.0%; Pred. No. 0.068;
ative 22; Mismatches 181; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                  US/08/440,856A
                                                                                                                                                                                                                                                                                                          36,217
                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                             05463-20001.00
     0,
   Gaps
     0;
```

유

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-249-585A-4/c
                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                 S
                                                                                                      밁
                                                                                                                                    Ś
                                                                                                                                                                         멍
                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
S
                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-249-585A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4, Application US/09249585A Patent No. 6417002 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 4
LENGTH: 1926
TYPE: DNA
ORGANISM: Epstein Barr Virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: METHOD FOR MAINTENANCE AND SELECTION OF EPISOMES FILE REFERENCE: 0867/0D905 CURRENT APPLICATION NUMBER: US/09/249,585A CURRENT FILING DATE: 1999-02-11 NUMBER OF SEQ ID NOS: 18 SOFTWARE: Patentin version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Horlick,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
NAME/KEY: misc_feature
LOCATION: (1)..(1926)
OTHER INFORMATION: template strand of EBNA-1 DNA
                                                                                                                                                                                                                                                                                                                                                        1916
                                                                                                                                                                                                                                                                                                                                                                                                                              1856 CGAGGATGCGGAGGAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGA 1915
                                                                                                                                                                                                                2036
 560
                                                                                                                                                                                                                                                                                                                      680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    952 CAGGGGCCTSGCCACGCTCAAGGGCSCSACGCTSAGRCCCAGGGACATCG 1001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           740 GGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCA 799
                                   440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCCTACACCGCCTCCAAGCACGCCATCGTSGGGCTCACCAAGAACGCCGCCTGCGAGCT 771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGCACCTG 859
                                                                                                                                                                                                                                                                                   GAGGAAACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCCAACAA 2035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAGCGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGA 979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATCAACGCCTGGCGCCAGGGCCACGACGMCKCCACCGCCGACGMCGACCGAGACSYCGA 891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCG 919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SSGCGCSCACGGSRTCCGSGTCAACTGCRTCTCSCCCTTCGGCGTCGCCACSCCSATGCT
                                                                                                                                                                                                                                                                                                                                                        CTGCAAGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAA 1975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CMTCGACCTCGACRTCRCCGTGCCCAGCGACCAGGAGGTGGAGAAGATGGAGGAGGTGGT
                                                                                                                                         GGACGTGGAGTCTGGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCTCGTCGTGGG 2155
                                                                                                                                                                                                              CTTCTCCGTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGA 2095
                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Robert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.1%; Score 49.8; DB 4; Length 1926; 44.9%; Pred. No. 0.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  232;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                           441
                                                                                                                                                                                501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

```
RESULT 9
US-09-130-114-2/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; ORGANISM: EBNA
US-09-130-114-2
                                                                             RESULT 10
US-07-951-715A-6
                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 2
LENGTH: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2, Application US/09130114
Patent No. 5976807
Sequence 6, Application US/07951715A Patent No. 5625136
GENERAL INFORMATION:
APPLICANT: Koziel, Michael G.
APPLICANT: Desai, Nalini M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/130,114
CURRENT FILING DATE: 1998-08-06
NUMBER OF SEQ ID NOS: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Horlick, Robert A.
APPLICANT: Damaj, Bassam B.
APPLICANT: Robbins, Alan K.
TITLE OF INVENTION: Eukaryotic Cells Stably Expressing
TITLE OF INVENTION: From Multiple Transfected Episomes
FILE REFERENCE: 0867/1D903US1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1916
                                                                                                                                                                                                                                                                                                                                                                                                                                 2036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1856 CGAGGATGCGGAGGAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGA 1915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2276 G 2276
                                                                                                                                                                                                                                                                                                     2156 AAGCTTCTCCAGGCGCAAGAAGAAGGGCAGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGA
                                                                                                                                                                                                                                                                                                                                                                1976
                                                                                                                                                                           2276
                                                                                                                                                                                                                                      320 G 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     320 G 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.1%; Score 49.8; DB 2; Length 1931; Local Similarity 44.9%; Pred. No. 0.18; les 189; Conservative 0. Mignature
                                                                                                                                                                                                                                                                                                                                                                                                                               CTTCTCCGTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGA 2095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGCAAGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAA 1975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGGAAACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCCAACAA 2035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ດ
                                                                                                                                                                                                                                                                                                                                    ĠĠĂĊĠĠĠĠĀĠĠĀĊĠĠĠĀĠĠĀĠĠĀĊĠĀĠĠĂĊĠĠĠĠĀĠĠĀĊĠĠĠĠĀĠĠĀĠĠĀĊĠĀĠĠĀĊĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1931
                                                                                                                                                                           2276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                        441
                                                                                                                                                                                                                                                                                                                                                                                                     501
```

APPLICANT:

Kramer,

Vance C.

Lewis,

```
ş
                                       밁
                                                                        Ś
                                                                                                               밁
                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                 US-07-951-715A-6
                                                                                                                                                                                          Matches
                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/07/951,715A
FILING DATE: 25-SEP-1992
CLASSIFICATION: 800
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/772,027
FILING DATE: 04-OCT-1991
ATTORNEY/AGENT INFORMATION:
NAME: Spruill, W. Murray
REGISTRATION NUMBER: 32,943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (919)541-8689
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 3624 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: S-18805/A/CGC 1577/CIP
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919)541-8615
                                                                                                                                                                                                                                                                                                                                                                                                HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30B
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                            2487 CTTCGAGTGGAACCCCGACCTGGACTGCAGCTGCCGCGACGGCGAGAAGTGCGCCCACCA 2546
                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: other nucleic acid DESCRIPTION: /desc = "Synthetic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Pace, Gary M.
APPLICANT: Suttie, Janet L.
TITLE OF INVENTION: SYMPHETIC DNA SEQUENCE HAVING ENHANCED
TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE
                                                                                                                                                                                                                                                                               LOCATION: 1..3621
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CÓMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
8/63 CACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGAGGACAGCCTGGCTCGCCGCCA 922
                                                                    803 CAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGCACCTGGGT 862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET:
CITY: Ha
STATE: N
COUNTRY:
                                                                                                                                               43 CTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGG 802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 3624 base pairs
                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                         COPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                      219;
                                   CAGCCACCACTTCAGCCTGGACATCGACGTGGGCTGCACCGACCTGCACGAGAACCTGGG 2606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hawthorne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7 Skyline Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 USA
                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dawson, John L.
Dunder, Erik M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Merlin,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wright, Martha S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Warren, Gregory W. Evola, Stephen V. Crossland, Lyle D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bowman, Cindy G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rothstein, Steven J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Merlin, Ellis J.
Launis, Karen L.
                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CIBA-GEIGY Corporation
                                                                                                                                                                                                        1.1%;
                                                                                                                                                                                                                                                                             /product= "Full-length, maize
optmized cryIB"
/note= "Disclosed in Figure 6."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US/07/951,715A
                                                                                                                                                                                        0,
                                                                                                                                                                                    Score 49.4; DB 1; Length 3624; Pred. No. 0.25; Indels 3
                                                                                                                                                                                      ω
--
                                                                                                                                                                                    Gaps
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        胺
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-459-448A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 6, Apprin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Patent No. 5859336
GENERAL INFORMATION:
                                                                                                                                       ZIP: 10591-9005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                 CLASSIFICATION: 800 PRIOR APPLICATION DATA:
                                                                                                      SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 5859336artis Corporation
                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2967 CAT 2969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1160 GCTCATGCTGACCTACAGCAACCACCAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTT 1219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2607
                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2847 CAACATCGGCATGATCCACGCCGCCGACAAGCTGGTGCACCGCATCCGCGAGGCCTACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1100 GGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCT 1159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2787 CAAGGAGGCCGTGGACGCCCTGTTCGTGGACAGCCAGTACGACCGCCTGCAGGCCGACAC 2846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1040 CCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCT 1099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2727 GAAGTGGCGCGACAAGCGCGAGAAGCTGCAGCTGGAGACCAAGCGCGTGTACACCGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2667 GTTCATCGAGGAGAAGCCCCTGCTGGGCGAGGCCCTGAGCCGCGTGAAGCGCGCCGAGAA 2726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   980 TGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCACCAAGCTCAACGTGAACCTGCC
                                                                      APPLICATION NUMBER: FILING DATE: 02-JUN
APPLICATION NUMBER: US 0 FILING DATE: 25-SEP-1992
                                                                                                                                                                                                                                                                  STREET: Rd., POB 2005
CITY: Tarrytown
                                                                                                                                                                                                                                                                                                      STREET:
                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGCGAGCTGCCCGTGATCCCCGGCGTGAACGCCGAGATCTTCGAGGAGCTGGAGGGCCA 2966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCGCACCAGGGACCAG---TGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGA 979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/08459448A
                                                                                                                                                                                                                                                     New York
                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                      Patent & Trademark Dept., 520 White Plains
                                                                                                                                                                                                                                                                                                                                                                                                                               Dawson, John L.
Dunder, Erik M.
Pace, Gary M.
                                                                                                                                                                                                                                                                                                                                                                           Suttle, Jamet L.
VENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED
VENTION: INSECTICIDAL ACTIVITY IN MAIZE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Desai,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bowman, Cindy G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rothstein, Steven J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wright, Martha S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Crossland, Lyle D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Evola,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Warren,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Koziel,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kramer, Vance C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Jaunis, Karen L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Desai, Nalini M.
Lewis, Kelly S.
                                                                      02-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Stephen V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ellis J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Michael
                US 07/951,715
                                                                                     US/08/459,448A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>م</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2786
```

```
Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-459-448A-6
                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                    RESULT 12
US-08-459-595A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 219;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                          Sequence 6, Application US/08459595A Patent No. 6018104
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: (919)541-8689
INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER: 40403
REFERENCE/DOCKET NUMBER: CG
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919)541-8582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: other nucleic acid DESCRIPTION: /desc = "Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: CDS
LOCATION: 1..3621
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                       2967
                                                                                                                                                                                                                                                                                                                                                                                                                                       2907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2727 GAAGTĠĠĊĠĊĠAĊĀAĠĊĠĊĠĀĠAĀĠĊŤĠĊĀĠĊŤĠĠĀĠĀĊĊĀĀĠĊĠĊĠŦĠŦACACCĠĀĠĠC 2786
APPLICANT: Koziel, Michael G.
                                                                                                                                                                                                                                                                                                                                                               1220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              воз слесслесення в в стават с поставаться в в ставаться в стават в стават в ставаться в ст
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              743 CTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGG 802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 07/772,027 FILING DATE: 04-OCT-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTCGAGTGGAACCCCGACCTGGACTGCAGCTGCCGCGACGACGAGAAGTGCGCCCACCA 2546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGCACCAGGGACCAG---TGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGA 979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCA 922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAACATCGGCATGATCCACGCCGCCGACAAGCTGGTGCACCGCATCCGCGAGGCCTACCT 2906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTTCATCGAGGAGAAGCCCCTGCTGGGGCGAGGCCCTGAGCCGCGTGAAGCGCGCCGAGAA 2726
                                                                                                                                                                                                                                                                                       CAT
                                                                                                                                                                                                                                                                                                                                                               CCT 1222
                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGCGAGCTGCCCGTGATCCCCGGCGTGAACGCCGAGATCTTCGAGGAGCTGGAGGGCCA 2966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTT 1219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCGGGACCTCTACCT 1159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAAGGAGGCCGTGGACGCCCTGTTCGTGGACAGCCAGTACGACCGCCTGCAGGCCGACAC 2846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCT 1099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCACCAAGCTCAACGTGAACCTGCC 1039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGCCACCACTTCAGCCTGGACATCGACGTGGGCTGCACCGACCTGCACGAGAACCTGGG 2606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pace,
                                                                                                                                                                                                                                                                                       2969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3624 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gary M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product= "Full-length, maize
optmized cryIB"
/note= "Disclosed in Figure 6."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches 261; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGC 1577/CIP/DIV4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 49.4; DB Pred. No. 0.25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 2; Length 3624;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ω
-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ۲.
```

```
Ś
                                                                                                           US-08-459-595A-6
                                       Matches 219;
                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Rothstein, Steven J.
APPLICANT: Bowman, Cindy G.
APPLICANT: Dawson, John L.
APPLICANT: Dunder, Brik M.
APPLICANT: Pace, Gary M.
APPLICANT: Suttie, Janet L.
APPLICANT: Suttie, Janet L.
TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED
TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: ku.,
STREET: Rarrytown
CITY: Tarrytown
TMATE: New York
TMATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: 40403
REFERENCE/DOCKET NUMBER: CG
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 25-SEP-
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Rel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS: ADDRESSEE: No. 60181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 04-OCT-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                       MOLECULE TYPE: other nucleic acid DESCRIPTION: /desc = "Synthetic DNA"
                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                        HYPOTHETICAL:
                                                                                                                              LOCATION: 1..3621
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
743 CTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGG 802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US 07/951,715 FILING DATE: 25-SEP-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 0:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                        LENGTH: 3624 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE: (919)541-8689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US 07/772,027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/459,595A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME:
                                                                                                                                                                                                    NAME/KEY:
                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10591-9005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pace, Gary M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E: No. 6018104artis Corporation Patent & Trademark Dept., 520 White Plains Rd., POB 2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Warren, Gregory W. Evola, Stephen V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wright, Martha S.
Merlin, Ellis J.
Launis, Karen L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Crossland, Lyle D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Desai, Nalini N
Lewis, Kelly S.
                                         Conservative
                                                                                                                                                                                                    CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                      (919)541-8582
                                                                                                                                                                                                                                          NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vance C.
                                                        1.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Release #1.0, Version #1.30
                                                                                                                              /product= "Full-length, maize
optmized cryIB"
/note= "Disclosed in Figure 6."
                                                                                                                                                                                                                                                                                                                                                                                        <u>ه</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGC 1577/CIP/DIV3
                                         0
                                                        Score 49.4; DB 3; Length 3624; Pred. No. 0.25;
                                           Mismatches
                                           261; Indels
                                           ω
••
                                           Gaps
```

밁

CTTCGAGTGGAACCCCGACCTGGACTGCAGCTGCCGCGACGGCGAGAAGTGCGCCCACCA 2546

۲,

```
US-08-459-504B-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 6, Application US/08459504B Patent No. 6075185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                        COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                               APPLICANT: Pace, Gary M.
APPLICANT: Suttie, Janet L.
TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED
TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE
NUMBER OF SEQUENCES: 94
                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2967 CAT 2969
                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2607
                      APPLICATION NUMBER: FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                           STREET:
                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCT 1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGCGAGCTGCCCGTGATCCCCCGGCGTGAACGCCCGAGATCTTCGAGGAGCTGGAGGGCCA 2966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAACATCGGCATGATCCACGCCGCCGACAAGCTGGTGCACCGCCATCCGCGAGGCCTACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTT 1219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCT 1159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAAGGAGGCCGTGGACGCCCTGTTCGTGGACAGCCAGTACGACCGCCTGCAGGCCGACAC 2846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCAACGAAGGGACGCT 1099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAAGTGGCGCGACAAGCGCGAGAAGCTGCAGCTGGAGACCAAGCGCGTGTACACCGAGGC 2786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCC 1039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCA 922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGCCACCACTTCAGCCTGGACATCGACGTGGGCTGCACCGACCTGCACGAGAACCTGGG 2606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTTCATCGAGGAGAAGCCCCTGCTGGGGGGGGCGCTGAGCCGCGTGAAGCGCGCGAGAA 2726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCGCACCAGGGACCAG----TGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGA 979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGCACCTGGGT 862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION:
                                                                                                                                                                                                                                    Research Triangle Park
                                                                                                                                                                                                                      NO
                                                                                                                                                                                                                                                           E: No. 6075185artis Corporation 3054 Cornwallis Road
                                                                                                                                                                                                 USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lewis, Kelly S.
Kramer, Vance C.
Warren, Gregory W.
                                                                                                                                                                                                                                                                                                                                                                                                                   Dawson, John L.
Dunder, Erik M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rothstein, Steve
Bowman, Cindy G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Merlin, Ellis J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wright, Martha S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Crossland, Lyle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Evola, Stephen V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Desai,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Launis, Karen L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Koziel, Michael G.
                                                                                                                                    Floppy disk
                                       US/08/459,504B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Steven J
                                                                            Version
```

```
S
                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-459-504B-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
-- Tocal Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/459,595
FILING DATE: 02-UN-1995
APPLICATION NUMBER: US 07/951,715
FILING DATE: 25-SEP-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/772,027
FILING DATE: 04-OCT-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (919)541-868:
INFORMATION FOR SEQ ID NO:
2967 CAT 2969
                                        1220
                                                                                                                                                                                                                                                                                                1040
                                                                                                                                                                                                                                                                                                                                    2727 GAAGTGGCGCGACAAGCGCGAGAAGCTGCAGCTGGAGACCAAGCGCGTGTACACCGAGGC 2786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 3624 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2487 CTTCGAGTGGAACCCCGACCTGGACTGCAGCTGCCGCGACGACGAGAAGTGCGCCCACCA 2546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: other nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCATION: 1..3621
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       743 CTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGG 802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Meigs, J. Timothy REGISTRATION NUMBER: 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE:
                                   CCT 1222
                                                                              GAGCGAGCTGCCCCGTGATCCCCCGGCGTGAACGCCCGAGATCTTCGAGGAGCTGGAGGGCCA
                                                                                                                    GCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTT 1219
                                                                                                                                                              CAACATCGGCATGATCCACGCCGCCGACAAGCTGGTGCACCGCATCCGCGAGGCCTACCT
                                                                                                                                                                                                         GGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCT
                                                                                                                                                                                                                                                   CAAGGAGGCCGTGGACGCCCTGTTCGTGGACAGCCAGTACGACCGCCTGCAGGCCGACAC 2846
                                                                                                                                                                                                                                                                                         CCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCT 1099
                                                                                                                                                                                                                                                                                                                                                                            TGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCC 1039
                                                                                                                                                                                                                                                                                                                                                                                                                         GTTCATCGAGGAGAAGCCCCTGCTGGGGCGGAGGCCCTGAGCCGCGTGAAGCGCGCCGAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGCACCAGGGACCAG---TGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGA 979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGCCACCACTTCAGCCTGGACATCGACGTGGGCTGCACCGACCTGCACGAGAACCTGGG 2606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (919)541-8689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (919)541-8587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /desc = "Synthetic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product= "Full-length, maize
optmized cryIB"
/note= "Disclosed in Figure 6."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  38,241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGC1577/CIP/DIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No. 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0.25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 3; Length 3624;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    261; Indels
```

```
; NAME/KEY: CDS; LOCATION: 1..3621; OTHER INFORMATION: /product= "Foptmized cryIB"; optmized cryIB"; optmized cryIB"; SEQUENCE DESCRIPTION: SEQ ID NO: 6: US-08-459-444-6
Ś
                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-459-444-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 6, Application US/08459444A Patent No. 6121014
GENERAL INFORMATION:
                                                                                                                             Best Local Similarity Matches 219; Conserv
                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION FOR SEQ ID NO: 6:
                                         2487 CTTCGAGTGGAACCCCGACCTGGACTGCAGCTGCCGCGACGGCGAGAAGTGCGCCCACCA 2546
743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/459,444A
FILING DATE: 02-Jun-1995
CLASSIFICATION: CUNKNOWN>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/951,715
FILING DATE: 25-SEP-1992
APPLICATION NUMBER: US 07/772,027
FILING DATE: 04-OCT-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IEM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
MOLECULE TYPE: other nucleic acid
DESCRIPTION: /desc = "Synthetic DNA"
                                                                                                                                                                                                                                                                                                                                                                                               HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 3624 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION: TELEPHONE: (919)541-8587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 6121014artis Agribusiness Biotechnology Research, Inc. STREET: 3054 Cornwallis Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                  CTTCCAGCGCTACCCTGACGCCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGG 802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,241
REFERENCE/DOCKET NUMBER: S-18805/P1/CGC1577/CIP/DIV6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: Research Triangle Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: (919)541-8689
                                                                                                                             1.1%;
ilarity 45.3%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Launis, Karen L.
INVENTION: METHOD FOR PRODUCING A PLANT-OPTIMIZED NUCLEIC ACID CODING SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Warren, Gregory W.
Evola, Stephen V.
Crossland, Lyle D.
Wright, Martha S.
Werlin, Ellis J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Koziel,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kramer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lewis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Desai, Nalini M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kelly S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Michael G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vance C.
                                                                                                                             0;
                                                                                                                        Score 49.4; DB 3; Length 3624; Pred. No. 0.25; O; Mismatches 261; Indels 3
                                                                                                                                                                                                                                                                                                      /product= "Full-length, maize
                                                                                                                             ω
--
                                                                                                                             ۲,
```

```
US-09-053-549-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 7, Application US/09053549 Patent No. 6121521
                                                                                                                                       TELEPHONE: 919-541-858;
TELEFAX: 919-541-8689
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2607
               MOLECULE TYPE:
DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: No.
HYPOTHETICAL:
                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2967 CAT 2969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1220 CCT 1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1160 GCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTT 1219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2787 CAAGGAGGCCGTGGACGCCCTGTTCGTGGACAGCCAGTACGACCGCCTGCAGGCCGACAC 2846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2727 GAAGTGGCGCGACAAGCGCGAGAAGCTGCAGCTGGAGACCAAGCGCGTGTACACCGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2547 CAGCCACCACTTCAGCCTGGACATCGACGTGGGCTGCACCGACCTGCACGAGAACCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      923
                                                  TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                   NAME: Pace, Gary M.
REGISTRATION NUMBER: 40
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 3054 commune...
CITY: Research Triangle Park
                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: FILING DATE: 01-API
                                                                                                                                                                                                                                                            NAME:
                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                      LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCT 1159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGCGAGCTGCCCGTGATCCCCGGCGTGAACGCCGAGATCTTCGAGGAGCTGGAGGGCCA 2966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAACATCGGCATGATCCACGCCGCCGACAAGCTGGTGCACCGCATCCGCGAGGCCTACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGCACCAGGGACCAG---TGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGA 979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACGGCCTGGCCTCGCCGCCA 922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCC 1039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTTCATCGAGGAGAAGCCCCTGCTGGGCGAGGCCCTGAGCCGCGTGAAGCGCGCGAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27709
                                                                                                    3624 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
                                                                                                                                                                                  919-541-8582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             No. 6121521artis Corporation
ğ
                                  other nucleic acid
                                                                                                                                                                                                                                                                                                                01-APR-1998
               /desc = "Synthetic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  No. 6121521el Insecticidal Protein and Gene \ensuremath{\mathtt{8}}
                                                                                                                                                                                                                                                                                                                                  US/09/053,549
                                                                                                                                                                                                                                  40,403
                                                                                                                                               7:
                                                                                                                                                                                                                       CGC 1995
                                                                                                                                                                                                                                                                                                                                                                        Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2606
```

```
NAME/KEY: CDS
ILOCATION: 1.3621
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
US-09-053-549-7
                                                                                                                                                                                                                                                                    ДЪ
Search completed: March 28,
Job time : 395 secs
                                                                                                    á
                                                                                                                                        밁
                                                                                                                                                                 δ
                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 1.1%; Score 49.4; DB 3; Length 3624; Best Local Similarity 45.3%; Pred. No. 0.25; Matches 219; Conservative 0; Mismatches 261; Indels 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2487
                                                                                                                                                                                                                                                                                2787
                                                                                                                                                                                                                                                                                                                                                    2727
                                                                                                                                                                                                                                                                                                                                                                                                                     2667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2607
                                                                       2967
                                                                                                                                          2907
                                                                                                                                                                          1160
                                                                                                                                                                                                            2847
                                                                                                                                                                                                                                              1100
                                                                                                                                                                                                                                                                                                                  1040
                                                                                                         1220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  743
                                                                                                                                                                                                                                                                                                                                                                                     980
                                                                                                                                                                                                                                                                                                                                                                                                                                                       923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              803
                                                                                                                                                                      GCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTT 1219
                                                                                                                                                                                                                              GGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCGGGACCTCTACCT 1159
                                                                                                                                                                                                                                                                                                           CCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCAACGGACGCT 1099
                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGCACCAGGGACCAG---TGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGA 979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGCACCTGGGT 862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGG 802
                                                                       CAT 2969
                                                                                                                                                                                                            CAACATCGGCATGATCCACGCCGCCGACAAGCTGGTGCACCGCATCCGCGAGGCCTACCT
                                                                                                                                                                                                                                                                                CAAGGAGGCCGTGGACGCCCTGTTCGTGGACAGCCAGTACGACCGCCTGCAGGCCGACAC 2846
                                                                                                                                                                                                                                                                                                                                                    GAAGTIGGCGCGACAAGCGCGAGAAGCTIGCAGCTIGGAGACCAAGCGCGTGTACACCGAGGC 2786
                                                                                                                                                                                                                                                                                                                                                                     TGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCACAAGCTGAACCTGAACCTGCC 1039
                                                                                                                                                                                                                                                                                                                                                                                                                     GTTCATCGAGGAGAAGCCCCTGCTGGGGCGAGGCCCTGAGCCGCGTGAAGCGCGCCGAGAA 2726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGAGGACGAGGACAGCCTGGCTCGCCGCCA 922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGCCACCTCAGCCTGGACATCGACGTGGGCTGCACCGACCTGCACGAGAACCTGGG 2606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTCGAGTGGAACCCCGACCTGGACTGCAGCTGCCGCGACGGCGAGAAGTGCGCCCACCA 2546
                                                                                                        CCT 1222
                                                                                                                                          GAGCGAGCTGCCCGTGATCCCCGGCGTGAACGCCGAGATCTTCGAGGAGCTGGAGGGCCA 2966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product= "Full-length, maize
optmized cryIB"
/note= "Disclosed in Figure 6."
                     2003, 21:31:55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1;
```

```
Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               March 28, 2003, 16:34:17; Search time 399 Seconds (without alignments) 9885.362 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             574371 segs, 425486471 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IDENTITY NUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 tcgcgatctagaactagtgg.....ggtaacggggcccagcccg 4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-927-112-1
          10:
11:
12:
13:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Published_Applications_NA:*
| /cgn2 6/ptodata/2/pubpna/US07_PUBCOMB.seq:*
| /cgn2 6/ptodata/2/pubpna/US07_NEW_PUB.seq:*
| /cgn2 6/ptodata/2/pubpna/US06_NEW_PUB.seq:*
| /cgn2 6/ptodata/2/pubpna/US06_PUBCOMB.seq:*
| /cgn2 6/ptodata/2/pubpna/US08_PUBCOMB.seq:*
| /cgn2 6/ptodata/2/pubpna/PCTUS_PUBCOMB.seq:*
| /cgn2 6/ptodata/2/pubpna/US08_NEW_PUB.seq:*
| /cgn2 6/ptodata/2/pubpna/US08_PUBCOMB.seq:*
| /cgn2 6/ptodata/2/pubpna/US08_PUBCOMB.seq:*
| /cgn2 6/ptodata/2/pubpna/US09_PUBCOMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GenCore version 5.1.4_p5_4578 (c) 1993 - 2003 Compugen Ltd.
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

17	16	15	14	13	12	11	10	9	8	7	0	S	4	ω	N	1	Result
144.2	144.2	146	195.4	195.4	276.8	276.8	289.8	301.8	301.8	307	308.6	308.6	308.6	308.6	3624	4635	Score
3.1	3.1	3.1	4.2	4.2	6.0	6.0	6.3	6.5	6.5	6.6	6.7	6.7	6.7	6.7	78.2	100.0	Query
5430	5273	1490	567	567	3068	3068	2627	3425	2211	1840	2709	2629	2289	2289	3624	4635	Query Match Length
10	10	10	9	9	10	10	10	10	10	10	10	10	10	10	10	10	B
US-09-822-635-3	US-09-728-952-78	US-09-835-996A-18	US-09-955-999-31	US-09-764-868-24	US-09-728-952-64	US-09-728-952-35	US-09-880-107-3293	US-09-800-971-1	US-09-800-971-3	US-09-835-996A-7	US-09-804-969-20	US-09-908-664-1	US-09-908-664-3	US-09-804-969-14	US-09-927-112-3	US-09-927-112-1	ID
Sequence 3, Ap	Sequence 78, A	Sequence 18, A	Sequence 31, Ap	Sequence 24, Ap	Sequence 64, A	Sequence 35, A	Sequence 3293,	Sequence 1, Ap	Sequence 3, Ap	Sequence 7, Ap	Sequence 20, A	Sequence 1, Ap	Sequence 3, Ap	Sequence 14, A	Sequence 3, Ap	Sequence 1, Ap	Description
	.2 3.1 5430 10 US-09-822-635-3	.2 3.1 5273 10 US-09-728-952-78 Sequence 78,	46 3.1 1490 10 US-09-835-996A-18 Sequence 18, 2 3.1 5273 10 US-09-728-952-78 Sequence 78, .2 3.1 5430 10 US-09-822-635-3 Sequence 3,	.4 4.2 567 9 US-09-955-999-31 Sequence 31, 46 3.1 1490 10 US-09-835-996A-18 Sequence 18, .2 3.1 5273 10 US-09-728-952-78 Sequence 78, .2 3.1 5430 10 US-09-822-635-3 Sequence 3,	.4 4.2 567 9 US-09-764-868-24 Sequence 24, .4 4.2 567 9 US-09-955-999-31 Sequence 18, 46 3.1 1490 10 US-09-728-952-78 Sequence 18, .2 3.1 5273 10 US-09-728-952-78 Sequence 78, .2 3.1 5430 10 US-09-822-635-3 Sequence 3,	8 6.0 3068 10 US-09-728-952-64 Sequence 64, 4 4.2 567 9 US-09-764-968-24 Sequence 24, 4 4.2 567 9 US-09-955-999-31 Sequence 31, 4 6 3.1 1490 10 US-09-835-996A-18 Sequence 18, 2 3.1 5273 10 US-09-728-952-78 Sequence 78, 2 3.1 5273 10 US-09-822-635-3 Sequence 3,	6.0 3068 10 US-09-728-952-35 Sequence 6.0 3068 10 US-09-728-952-64 Sequence 4.2 567 9 US-09-964-868-24 Sequence 4.2 567 9 US-09-955-999-31 Sequence 3.1 1490 10 US-09-835-996A-18 Sequence 3.1 5273 10 US-09-728-952-78 Sequence 3.1 5430 10 US-09-822-635-3 Sequence	B 6.3 2627 10 US-09-880-107-3393 Sequence B 6.0 3068 10 US-09-728-952-64 Sequence B 6.0 3068 10 US-09-728-952-64 Sequence B 6.0 3068 10 US-09-764-868-24 Sequence B 6.0 3068 10 US-09-955-999-31 Sequence B 6.0 3068 10 US-09-955-999-31 Sequence B 7.0 10 US-09-31 Sequence B 7.0 10 US-09-822-635-3 Sequence B 7.0 10 US-09-822-635-3	6.5 3425 10 US-09-800-971-1 Sequence 6.3 2627 10 US-09-880-107-3293 Sequence 6.0 3068 10 US-09-728-952-35 Sequence 6.0 3068 10 US-09-728-952-64 Sequence 4.2 567 9 US-09-764-868-24 Sequence 4.2 567 9 US-09-955-999-31 Sequence 3.1 1490 10 US-09-835-996A-18 Sequence 3.1 5273 10 US-09-822-635-3 Sequence	6.5 2211 10 US-09-800-971-3 Sequence 6.5 3225 10 US-09-800-971-1 Sequence 6.3 2627 10 US-09-880-107-3293 Sequence 6.0 3068 10 US-09-728-952-35 Sequence 6.0 3068 10 US-09-728-952-64 Sequence 6.0 3068 10 US-09-728-952-64 Sequence 6.0 3068 10 US-09-953-999-31 Sequence 7.2 567 9 US-09-955-999-31 Sequence 7.3 1 1490 10 US-09-835-996A-18 Sequence 7.4 5273 10 US-09-825-635-3 Sequence 7.5 5273 10 US-09-822-635-3 Sequence	6.6 1840 10 US-09-835-996A-7 Sequence 6.5 3121 10 US-09-800-971-3 Sequence 6.5 3125 10 US-09-800-971-1 Sequence 6.3 2627 10 US-09-880-107-3293 Sequence 6.0 3068 10 US-09-728-952-35 Sequence 6.0 3068 10 US-09-728-952-64 Sequence 4.2 567 9 US-09-974-868-24 Sequence 4.2 567 9 US-09-955-999-31 Sequence 3.1 5273 10 US-09-835-996A-18 Sequence 3.1 5273 10 US-09-822-635-3 Sequence	6.7 2709 10 US-09-804-969-20 Sequence 6.6 1840 10 US-09-835-996A-7 Sequence 6.5 2211 10 US-09-800-971-3 Sequence 6.5 3425 10 US-09-800-971-1 Sequence 6.3 2627 10 US-09-880-107-329 Sequence 6.0 3068 10 US-09-788-952-35 Sequence 6.0 3068 10 US-09-728-952-64 Sequence 4.2 567 9 US-09-728-952-64 Sequence 4.2 567 9 US-09-758-999-31 Sequence 3.1 1490 10 US-09-835-999-31 Sequence 3.1 5273 10 US-09-835-995A-18 Sequence 3.1 5273 10 US-09-826-635-3 Sequence	6.7 2629 10 US-09-808-664-1 Sequence 6.7 2709 10 US-09-804-969-20 Sequence 6.6 1840 10 US-09-815-95A-7 Sequence 6.5 2211 10 US-09-800-971-3 Sequence 6.5 2211 10 US-09-800-971-1 Sequence 6.3 2627 10 US-09-800-971-1 Sequence 6.0 3068 10 US-09-880-107-3293 Sequence 6.0 3068 10 US-09-728-952-35 Sequence 6.0 3068 10 US-09-728-952-35 Sequence 6.0 3068 10 US-09-728-952-34 Sequence 6.0 3068 10 US-09-728-952-34 Sequence 6.0 3068 10 US-09-835-999-31 Sequence	6.7 2289 10 US-09-908-664-3 Sequence 6.7 2629 10 US-09-908-664-1 Sequence 6.7 2709 10 US-09-804-969-20 Sequence 6.6 1840 10 US-09-835-996A-7 Sequence 6.5 1421 10 US-09-805-971-3 Sequence 6.5 3425 10 US-09-800-971-1 Sequence 6.0 3068 10 US-09-800-973-3 Sequence 6.0 3068 10 US-09-728-952-35 Sequence 6.0 3068 10 US-09-728-952-35 Sequence 6.0 3068 10 US-09-728-952-35 Sequence 1.2 567 9 US-09-953-999-31 Sequence 3.1 1490 10 US-09-855-999-31 Sequence 3.1 5273 10 US-09-825-395-3 Sequence 3.1 5273 10 US-09-825-635-3 Sequence	6.7 2289 10 US-09-804-969-14 Sequence 6.7 2289 10 US-09-908-664-1 Sequence 6.7 2629 10 US-09-908-664-1 Sequence 6.7 2709 10 US-09-908-664-1 Sequence 6.6 1840 10 US-09-804-969-20 Sequence 6.5 2211 10 US-09-800-971-3 Sequence 6.5 2221 10 US-09-800-971-3 Sequence 6.3 2627 10 US-09-800-971-3 Sequence 6.3 2627 10 US-09-800-107-329 Sequence 6.0 3068 10 US-09-800-107-329 Sequence 6.0 3068 10 US-09-728-952-35 Sequence 7.2 567 9 US-09-728-952-64 Sequence 7.3 1490 10 US-09-855-999-31 Sequence 7.4 2 567 9 US-09-728-952-78 Sequence 7.5 273 10 US-09-825-535-3 Sequence 7.7 5430 10 US-09-825-535-3 Sequence	78.2 3624 10 US-09-927-112-3 Sequence 6.7 2289 10 US-09-908-664-3 Sequence 6.7 2629 10 US-09-908-664-1 Sequence 6.7 2629 10 US-09-908-664-1 Sequence 6.7 2629 10 US-09-804-962-20 Sequence 6.6 1840 10 US-09-805-998A-7 Sequence 6.5 2211 10 US-09-800-971-3 Sequence 6.5 3425 10 US-09-800-971-3 Sequence 6.0 3068 10 US-09-800-971-3 Sequence 6.0 3068 10 US-09-728-952-35 Sequence 4.2 567 9 US-09-728-952-35 Sequence 3.1 1490 10 US-09-835-999-31 Sequence 3.1 5273 10 US-09-825-635-3 Sequence 3.1 5273 10 US-09-728-953-78 Sequence 3.1 5273 10 US-09-728-953-78 Sequence 3.1 5273 10 US-09-825-635-3 Sequence	100.0 4635 10 US-09-927-112-1 Sequence 78.2 3624 10 US-09-927-112-3 Sequence 6.7 2289 10 US-09-904-664-3 Sequence 6.7 2289 10 US-09-908-664-3 Sequence 6.7 2629 10 US-09-908-664-1 Sequence 6.7 2629 10 US-09-804-962-20 Sequence 6.6 1840 10 US-09-804-971-3 Sequence 6.5 2211 10 US-09-800-971-3 Sequence 6.3 2627 10 US-09-800-971-3 Sequence 6.3 2627 10 US-09-800-971-3 Sequence 6.0 3068 10 US-09-703-29 Sequence 6.0 3068 10 US-09-703-29 Sequence 7.2 567 9 US-09-728-952-35 Sequence 7.2 567 9 US-09-728-952-35 Sequence 7.2 567 9 US-09-728-952-31 Sequence 7.2 567 9 US-09-728-952-35 Sequence 7.2 567 9 US-09-728-952-31 Sequence 7.2 567 9 US-09-728-952-31 Sequence 7.2 567 9 US-09-728-952-39 Sequence 7.2 567 9 US-09-728-

ALIGNMENTS

```
Sequence 1, Application US/09927112

Patent No. US20020106774A1

GENERAL INFORMATION:
APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Meyers, Rachel
APPLICANT: Meyers, Rachel
APPLICANT: Silos-Santiago, Inmaculada
TITLE OF INVENTION: 32544, a novel human phospholipase C and
TITLE OF INVENTION: uses thereof
FILE REFERENCE: 38155-20048.00
CURRENT APPLICATION NUMBER: US/09/927,112
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR FILING DATE: 2000-11-08
NUMBER OF SEQ ID NOS: 17
                                                                                                                                    Ş
                                                                                                                                                                                      망
                                         Ş
                                                                                      片
                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                 US-09-927-112-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-927-112-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
LENGTH: 4635
                                                                                                                                                                                                                                                                            Query Match 100.0%; Score 4635; Best Local Similarity 100.0%; Pred. No. 0; Matches 4635; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: CDS
LOCATION: (435)...(4058)
121 GCTGAGGGGCTGAGTGCTCATTCCAGCCGCCTCGGGGAACCCCGGGCTGGGAGACCCCCATG
                           121 GCTGAGGGGCTGAGTGCTCATTCCAGCCGCCCTCGGGGAACCCCGGGCTGGGAGACCCCATG 180
                                                                                             61 AACCTGCCGGTCTCCGGCTGGGACGGTGGCTGGATCAGCCTCAAGCCTCCAGGGCCCCTGAG
                                                                                                                                         61
                                                                                                                                                                                      1 TCGCGATCTAGAACTAGTGGCACGGCTCCTGCACTCCCACTGCCGCAGGAACTGCTCAGG
                                                                                                                                                                                                                   1 TCGCGATCTAGAACTAGTGGCACGGCTCCTGCACTCCCACTGCCGCAGGAACTGCTCAGG
                                                                                                                      AACCTGCCGGTCTCCGGCTGGGACGGTGGCTGGATCAGCTCAAGCCTCCAGGGCCCCTGAG 120
                                                                                                                                                                                                                                                                                                                                  DB 10;
                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                  Length 4635;
                                                                                                                                                                                                                                                                                      0; Gaps
                                                                                                                                                                                             60
       180
                                                                                                120
```

B 8

	TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGC 1320	1261 GCTGCCAGGACATCATCGAGCAG
	SCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGA 1260 	201 CCGCCAGCCTGCAGCGCTTCCTV
***	ACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATG 1200 	41 CCCGCCGGGACCTCT
	TTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCA 1140	1081 ATGACCACCAAGGGACGCTGGGTTTTGAA
	GCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGG 1080 	21 AGCTCAACGTGAACCT
	GAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACA 1020 	961 AGGCCGACAAGAACGGGGATGGC
	CCAGCGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACG 960	01 AGGACAGCCTGGCTCGCCG
	ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACG 900	841 GCGAGGTGGCGCGCACCTGGGTCACTGGCCTG
	ACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCA 840	1 GCTGCTTCAGCATCTACC
	TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACT 780 	721 GTGAGGGGCGGCAGTCGGAGGTCTTC
	CAAGAACGAGAAGGCCAAGATCTCCATCGACTCCATCCAGAGGTGA 720	661 GGAGGCCCTCACGCAAGAACGAG
	CGCTTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCT 660	601 GCGGCTCCAAGGGCCTGGTCCGC
	TGGAGCGGTGCATGGGTGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTG 600	541 CCGTGGTGGAGCGGTGCATGGGT
	CCGGAGAGCAGGTGGCTTTTCTTGAGCGCCAACATTCTGC 540	481 CTGAGGACCCAGGGCCGGATCCG
· · ·	CCATGATGGCTCCCCGACAGCCGGCCCCCTTCCTGGCCCAGCTCTTCCGC 480	421 TCAGTCCCTCCATGATGGCTCCC
	AGTCCCAGCTTTCAGTTGCTGCCCCCACCGACAGTCC 420	361 GGCCCAGCTGGTGATCCCAGCCAGTCG
	CTGGGAGCAGAGAGACCTCAGAGCAGCCTCCTCCTGCCTCCTGTGGACGGCC 360	301 CGGGGGCCCTGGGAGCAGAGAGA
	CAGGCTTGGGTGTGTGATGCGCTGCTGGCCCAGGCTACACCCCCGACAAGGACAC 300	241 ACCACCAGGCTTGGGTGTGAT
	CTGGGGGTGAGCCTGGAGCCAGGGCAGTGCGGTGAGAGGCTCCGGAGAGAGA	181 CCTGGGGGTGAGCCTGGAGCCAG

밁

& B

 Ś

2400	ACATAGAGATGGAGGCGGCGTCCCAGCTGGCAGGTGTCCTTCAGCGAGGCCAAGGCCC	2341	Qy YQ
2340 2340	TGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACCAAGTCCGTGGCCACCCAC	2281 2281	P 40
2280	ATGAGGGTCAGGACTCCCCGGGAGGGCCAGAGGCCGAGGAGAAGAAGACCA	2221	DЬ
2280	ATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGGGGCGACCCGGCAGAAGAA	2221	ρ
2220 2220	TCTCCAGGCGCAAGAAGAAGGAGGCAGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGGAG	2161 2161	망양
2160	TGGAGTCTGGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCT	2101	Дb
2160	TGGAGTCTGGGGAGGATGCCGGGGCCAGCAGCAGACGCAATGGCCGCCTCGTCGTGGGAAAGCT	2101	Ŋ
2100 2100	CGTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGAGGAGCAAGGCAAGGCTGAAGAGCACGCIGAAGAGCTAGAAGAGCTGAAGAGCTAGAAGAGCTGAAGAGCTAGAAGAGCTAGAAGAGCTAGAAGAGCTAGAAGAGAGAG	2041	р Q
2040	AACTGGATTCCCTCATCAAAGATCGAAGATTCGGACTGTGAGGACCCCCAACAACTTCT	1981	Дb
2040	AACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCCAACAACTTCT	1981	Qγ
1980	AGCTCCTCAATGGGGATGCATCCAACCAATCGAAAAGCGTGTAGAAAACACTGCTAAGAGGA	1921	Db
1980	AGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGA	1921	δ.
	ATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCA	1861	Db
1920	ATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCA	1861	8
86			Db .
86	AGATGCTCAAGGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGG	1801	Ş
80		1741	당
80	CCCCTCTC	~1	Ş Q
1740	AAAACCACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCAGTATCTGACTGA	1681	뮹
1740	AAAACCACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCAGTATCTGACTGA	1681	ρ
1680	TIGAAACCATCAACAATATGCCTTCATCAAGAATGAGTACCCAGGGATCCTGTCCATCG	1621	D 45
N	GGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCA	U.	D
62	GGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCA	50	. Qy
1560	CTTGGGTCCTGCAGGCTGGCTGCCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACG	1501	뫄
1560	CTTGGGTCCTGCAGGCTGGCCGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACG	1501	ρQ
1500	CCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGGTCACGGGTGGACATGTATG	1441	В
1500	CCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGAC	1441	γQ
4	AGCACCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGT	38	дь :
1440	AGCACCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGT	w	Ş
1380	TGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTG	1321 1321	당 왕
1320		1261	Db

	GAGTGCGGCCCCCGCGTGTCCTGGACGG	-
GCCCCGGGCCTGCTGGGATGGCCGCCACATGCA 3480	3421 GAGTGCGGCCCCCGCGTGTCCTGGACGGCCCCGGGCCT	•
CGCAGCTGCGGTGGCAGAGAACAGCCCTGTGC 3420	3361 CCGGCAGCGGCAGCCCCCGAGGTAAGGCGCCAGCTGCGGCAGCTGCGGCAGCTGCGGCAGCTGCGGCAGCTAAGGCGCCAGCTGCGCAGCTGCAGCCAGC	
JACCTGCTCCGGAAGCCCCAGCCCAGGAGGGGC 3360	3301 CAGACGATGTGGTGCCCCCCGGGCCCGGACCTGCTCCGG	
JACCTGCTCCGGAAGCCCCAGCCCAGGAGGGGC 3360	3301 CAGACGATGTGGTGCCCCCCGGGCCCGGACCTGCTCCGC	
TOGGTACACGGGACACAGGCTCCAAGGGGGTGG 3300	3241 GCCGCAGGGGCTTCCCGGAGCTGGTCCTGGGTACACGGC	
GGCCAGCGCCCCGACCAAGAGCCAGAAGCCGG 3240	3181 CCGTTAGCCAGCGGATCCTGCGGCGCACGGCCAGCGCCCAGCGCCCGCC	B 6
TCATGCTGCTGGGCGGCCCCGGCCCGGCCCT 3180 TCATGCTGCTGGGCGGCCCCCGGCCCC 3180	3121 GAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGCTGCTGCTGCTGCTGACAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGACAGTCATGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGCTGACAGTCATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT	
GCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCC 3120	3061 CTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTG	
GARGESTERGESCOTTENTS AND CONTROL TO THE STATE OF THE STAT	3001 CAGGCTACAGCACGTGTACCTAGAAGGGATGGAAGAGG	
	2941 ACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGC	
ccagaggacgcrggccrrcagcagcargargc 3000	2941 ACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGC	
GATCGCGCTGGTCCGCTTCCTCGTCTGGGACC 2940	2881 CCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGC	
CGACAACGGGTTCAACCCCACCTGGGAGGAGA 2880	2821 GCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGT	
GGAGGTGGAGATCATTGGGCTCCCTGTGGACT 2820	2761 ACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGA 	
GCTTCCCAAGCCGCGCGACTCCATGCTGGGGG 2760	2701 TGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGG	,
GGACCCCTGCCCGGGCAGCTCAAGAAGCAGC 2700	2641 GCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGC	용 성
CIGCGCTACGTACTCAAGCCTGGGTGCATGT 2640	2581 ACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACG	
CTACCAGTCAGAGGGGGGGATGCTGCAGCTGA 2580	2521 ACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGGGGG	
CTCCAGCAACTACAACCCGCAGCCCTTCTGGA 2520	2461 GCATCTACCCCTCCTCCTACCGTGTGGACTCCAGCAACT	
GTACCTACGCTTCAACCAGCAGCAGCTCTCCC 2460	2401 ACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCT	
GCAGGTGTCGTCCTTCAGCGAGACCAAGGCCC 2400	2341 ACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGT	Db

T 4560	CACGGAGCCCGCCCACACCACCCTGCCCTCCAGAC	Qy Db
4 4	441 GCTGCTTTGGGCTGAAGCACCCCACTAGAAGGGTGTCT	D Qy
C 4440 C 4440	81 TGGGACGCCTGGAGCCTGCTGAGTGCTGCGTGGAGTAGATTCCCTGGGCCCCAGGGCTT	D Q
C 4380 C 4380	21 TCCCTACTGGGAAGTCTGATGTGGGCAGGTAGTGCAGCTGCTGGGGGGTCTCCTGCGCCC	D Q
G 4320 G 4320	61 CTGGGACTGGGGGCCATGTACCATCCCATTCCCACCTCCCTC	Db Qy
C 4260 C 4260	201 GCGCTTCCCCAAACTCACCTCCTGGGCGGCTGGCGACCTGCA	B 8
3 4200 3 4200	141 GCTCTTGCTGAGGGTCTGGGGCCGGGACTGTGGCCTG	B 8
T 4140 4140	081 TGAGGCCCTGGGACTTGGGTGGAGCTGGTTTGAGGCCCGACAGGCTG	D
T 4080	021 GTGGCACTCTGCTCCCTTGGCTTGCCCGTGGCCCATA	д Q
C 4020	961 CGTGGACGGTGTCGCCTCGTGTGCTCGTGGCTCTGTATC	DB 92
3 3960	901 GCGTGGTCCTCCCGGACGCCCCTGGCATGGCTGGGCCTGGGTCACCTGCTGCTGCTT	D 49
7 3900 3900	84	Db Qy
1 3840 1 3840	1 AGGGTGCCTGCAGGCAACCGGGGGGCCCTGCAGGGAGAGATGAGTGCCTT	B 8
3780 3780	721 CCTCGGACTCCAGCAGCCCAGACAGCCCGGGCATCCCCC	70 VQ
r 3720 r 3720	661 GAGAGGCCCCCAAGGGTCCTGGGGCCTGGAGGCAGGGTCCAGGCGGTAG	B &
1 3660 1 3660	601 CTGACTCACTGGGGGCCCCCTGCTGTGGCCTGGACCCTCACGCTATCCCG	₽ Q
3600	541 CACCCAGCCCGGGGCCTGCAAC	D Qy
3540	481 TGAAGTGTGTGGTGGGATCCTGCGCGGGGGGGTGAACACCGGGGGCCTGCAGA 	당 성

```
APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Meyers, Rachel
APPLICANT: Silos-Santiago, Inmaculada
ITILE OF INVENTION: 32544, a novel human phospholipase C and
ITILE OF INVENTION: uses thereof
ITILE OF INVENTION: uses thereof
CURRENT APPLICATION NUMBER: US/09/927,112
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR APPLICANT NUMBER: US 60/246,808
PRIOR APPLICATION NUMBER: US 60/246,808
      Ś
                                                               밁
                                                                                                                     Ś
                                                                                                                                                                                  밁
                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 2
US-09-927-112-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-927-112-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 78.2%; Score 3624;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 3624; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 3, Application US/09927112
Patent No. US20020106774A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4561
975 GGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAAC 1034
                                                                  481
                                                                                                                                                                                        421
                                                                                                                                                                                                                                                  855
                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        495
                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                        195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        щ
                                                                                                                                                                                  ACCTGGGTCACTGGCCTCCGCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCT 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGAACGAGAAGGCCAAGATCTCCATCGACTCCATCCAGGAGGTGAGGGGGCGGCAG 734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCATGGGTGCCATGCAAGAGGGGGATGCAGATGGTGAAGCTGCGTGGCCGCTCCAAGGGC 614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGGCTCCCCCGACAGCCCGCCCCTTCCTGGCCCAGGTCTTCCGCCTGAGGACCCAGGG 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGGGCCCAGCCCCG 4635
                                                            CGCCGCCAGCGACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAAC 540
                                                                                                     CGCCGCCAGCGCACCAGGGACCCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACCAAGAAC 974
                                                                                                                                                                                                                               ACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACGACGACGCTTGCT 914
                                                                                                                                                                                                                                                                                                                                                                    TACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGC 854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATC 794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAGGCCCTCACGC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGGTCCGCTTCTACTACCTGGACGACCACCGCTCCTGCATCCGCTGGAGGCCCTCACGC 674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGGATCCGGAGAGCAGGTGGCTTTTCTTGAGCGCCAACATTCTGCCCGTGGTGGAGCGG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGGATCCGGAGAGCAGGTGGCTTTTCTTGAGCGCCAACATTCTGCCCGTGGTGGAGCGG 554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGGCTCCCCGGACAGCCGGCCCCCTTCCTGGCCCAGCTCTTCCGCCTGAGGACCCAGGG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTGCCCCCACCCACGCTTGCCTCCGTAGTTAGGAACTGAGAGCGGCGAGTGACAGGTAA 4620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTGCCCCCACGCTTGCCTCCGTAGTTAGGAACTGAGAGCGGCGAGTGACAGGTAA 4620
                                                                                                                                                                                                                                                                                                           TCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCATGGGTGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGCTCCAAGGGC 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGGGCCCAGCCCCG 4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 10; Length 3624;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
```

2114	TCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAG	2055	γQ
1620	CAAAGAGTCGAAGAT	1561	Db
2054	AAAGAGTCGAAGATTCGGGACTGTGAGGACCCCAACAACTTCTCCGTCTCCACACT	1995	Qy
1994 1560	GATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTC	1935	Db 92
1500	TGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATG	1441	ф
1934	AGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGG	1875	γQ
1440	CCTCGTGAAGGGGAAGAAGCTCCCCAGCCAACATCAGCGAGGATGCG	1381	В
1874	GATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGG	1815	Qy
1380	ATCAGTGAGCAGTGAAGATGCCACCACCACTCCCCTCTCCACAGATGCTCAAGGG	1321	Db
1814	тетсатсается в при	1755	δ
1320	CATCCAGCAGAAGAAATGGCCCAGTATCTGACTGACATCCTT	1261	ф
1754	ATCCAGCAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGA	1695	Qy
1260	TATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGC	1201	Db
1694	ATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCA	1635	γQ
1200	ACCATGGCTACACTCTGAACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAA	1141	Дb
1634	ACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCA	1575	Ş
1140	TGGCTGCCGCTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGT	1081	Db
1574	GCTGGCTGCCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGAGCCCATTG	1515	Ş
1080	TCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTCC	1021	Db
1514	CTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTCCT	1455	Ş
1020	GGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACC	961	DЬ
1454	CACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACA	1395	Ş
960	TTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGT	901	뮰
1394	TTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCA	1335	γQ
900	ATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGC	841	Дb
1334	ATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATG	1275	VQ VQ
840	CGCT	781	DЬ
1274	сесттествелеванельная проставления при	1215	Ş
780	TACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCC	721	뫄
1214	TACCTGCTCATGCTGACCTACAGGACCACCAGGACCACCTGGATGCCGCCAGCCTGC	1155	Q.
720	ACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCT	661	DЬ
1154	ACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACC	1095	9
660	CTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAA	601	Db
1094	CTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAG	1035	Ş
600		541	Db

RESULT 3 US-09-804-969-14

Sequence 14, Application US/09804969 Patent No. US20020081595A1 GENERAL INFORMATION:

APPLICANT: Hu, Yi
APPLICANT: Nepomnichy, Boris
APPLICANT: Donoho, Gregory
APPLICANT: Hilbun, Erin
APPLICANT: Turner, C. Alexander
APPLICANT: Abuin, Alejandro

Jr.

```
8
                                                                                                                                                                                     밁
                                                                                                                                                                                                5
                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                       뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                        Ş
                                                                                         밁
                                                                                                      Ş
                                                                                                                        В
                                                                                                                                     Ş
                                                                                                                                                       밁
밁
             S
                              밁
                                         S
                                                            В
                                                                                                                                                                                                                                                                                                                                                                                          3315
                                                                                                                                                                                                                                                                                                                                                                                                         2821
                                                                                                                                                                                                                                                                                                                                                                                                                                        2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                        3195
                                                                                                                                                                                                                                                                 3555
                                                                                                                                                                                                                                                                                                                              3435
                                                                                                                                                                                                                                                                                                                                                            3375
                                                                                                                                                                                                                                                                                                                                                                            2881
                                                                                                                                                                                                                                                                                                                                                                                                                         3255
              4035
                              3541
                                            3975
                                                            3481
                                                                           3915
                                                                                          3421
                                                                                                         3855
                                                                                                                        3361
                                                                                                                                         3795
                                                                                                                                                       3301
                                                                                                                                                                      3735
                                                                                                                                                                                      3241
                                                                                                                                                                                                     3675
                                                                                                                                                                                                                    3181
                                                                                                                                                                                                                                   3615
                                                                                                                                                                                                                                                  3121
                                                                                                                                                                                                                                                                                 3061
                                                                                                                                                                                                                                                                                                 3495
                                                                                                                                                                                                                                                                                                               3001
                                                                                                                                                                                                                                                                                                                                              2941
3601 CCTTGGCTTGCCTGTGGCCCATAG
                                                                                                                                                                                                                                                                                                                                                                                                         CCGGAGCTGGTCCTGGGTACACGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCCTGCGGCGCACGGCCAGCGCCCGACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTC
                                                                                                                        CAACCGGGGGCCCTGCAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGATC
                                                                                                                                                      GGATCCTGCGCCGGCGTGAACACCGGGGGCCTGCAGAGGGAGCGGCCACCCAGCCCGGGG
                                                                                                                                                                                                                                                                                                                       CCCCGAGGTAAGGCGCCAGCTGCGGTGGCAGAGAAGAGCCCTGTGCGAGTGCGGCCCCCG
                                                                                                                                                                                                                                                                                                                                                                           CCCCCGGGGCCCGGACCTGCTCCGGAAGCCCCAGGCCGGGGGGGCCCGGCAGCGCAGC
                                                           CCTGCAAGCAGGCAGCCATTCGCCAGCAGCCCCGGGCCCGGGCTGACTCACTGGGG
                                                                                                                                                                                                                                                                                                                                              CCCCGAGGTAAGGCGCCAGCTGCGGTGGCAGAGAGAAGAGCCCTGTGCGAGTGCGGCCCCCG
                                                                                                                                                                                                                                                                                                               COTOTOCTOGACOOCCCOGOCCTOCTOGGATGCCCCCCACATGCATGAAGTGTGTGGTG
       CCTTGGCTTGCCTGTGGCCCATAG 4058
                             CCTCGTGTGCTCGTGGCTCTGTATCCGTGGCACTGTCTCCGTGGCACTCTGCTC
                                        CCTCGTGTGCTCGTGCCTCGTGGCCTCTGTATCCGTGGCACTGTCTCCGTGGCACTCTGCTC
                                                                                         AGGAGTAAATCCCCCATGTTCTCCGCCGGTAAGCCCCTCTTGCCCTGCGTGGTCCTCCCG
                                                                                                     AGGAGTAAATCCCCCATGTTCTCCGCCGGTAAGCCCCTCTTGCCCCTGCGTGGTCCTCCCG
3624
                                                                                                                                                                                                                                                                                                                                3494
                                                                                                                                                                                                                                                                                                                                                                                                                                                          3254
                                                                                                                                                                                                                                                                                                 3554
                                                                                                                                                                                                                                                                                                                 3060
                                                                                                                                                                                                                                                                                                                                                3000
                                                                                                                                                                                                                                                                                                                                                                                            3374
                                                                                                                                                                                                                                                                                                                                                                                                                           3314
                                                                                                                                                                                                                                                                                                                                                                                                                                           2820
                                3600
                                               4034
                                                              3540
                                                                             3974
                                                                                            3480
                                                                                                           3914
                                                                                                                           3420
                                                                                                                                          3854
                                                                                                                                                          3360
                                                                                                                                                                        3794
                                                                                                                                                                                        3300
                                                                                                                                                                                                       3734
                                                                                                                                                                                                                      3240
                                                                                                                                                                                                                                    3674
                                                                                                                                                                                                                                                    3180
                                                                                                                                                                                                                                                                   3614
                                                                                                                                                                                                                                                                                  3120
                                                                                                                                                                                                                                                                                                                                                               3434
                                                                                                                                                                                                                                                                                                                                                                              2940
                                                                                                                                                                                                                                                                                                                                                                                                            2880
```

田田

```
Ś
                                                          밁
                                                                                            Ś
                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                  밁
                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-804-969-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: FastSEQ for Windows Version
SEQ ID NO 14
LENGTH: 2289
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILE REFERENCE: LEX-0148-USA
CURRENT APPLICATION NUMBER: US/09/804,969
CURRENT FILING DATE: 2001-03-13
PRIOR APPLICATION NUMBER: US 60/188,885
PRIOR FILING DATE: 2000-03-13
PRIOR APPLICATION NUMBER: US 60/189,693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR FILING DATE: 2000-03-15
NUMBER OF SEQ ID NOS: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Zambrowicz, Brian
APPLICANT: Sands, Arthur T.
TITLE OF INVENTION: No. US20020081595A1el Human Phospholipases and Polynucleotides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: homo sapiens
                                                                                              1404
                                                                                                                                                                                                                                                                                                                                                                                   1164 ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1104 TTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTC 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      149
TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTGGATTTCCTC
                                                                                                                                                    TACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC 1403
                                                                                                                                                                                                                                                                           CAAGAGGAGCAGAAGGAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                         GGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACGTGCTGAGGTGCAGGAACTG 633
                                                        ATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCCTACCTCGTGGGT
                                                                                                                                                                                                    CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG 128:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGT 110:
                                                                                                                              TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGGCTGCTGGGCATTGATGGCTTCACCAAC 134:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAATATGCCTTCAGTCTTTTTCAGGCAGCAGACACG---TCCCAGTCTGGAACCCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCCCCGG 104:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTTGACGAGGCCGACAAGAACGGGGGATGGC 983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACTGGCCTGCGCTACCTCATGGCCGCATCAGCGACGACGACAGCCTGGCTCGCCGCCAG 923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGCATGGACCATCAGGAGCGCCT---- 404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGCCGCCGCTCCAACCTGGACCTGATGGCCAACAGTGTTGAGGAGGCCCAGATATGGATG 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGCTGCGTAGCCTGGCAGAGGAGCTCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTTCAGCATCTACCACGGC 803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     679;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Friedrich, Glenn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGACCAATGGCTGAGCGATTGGTTTCAACGTGGAGACAAAAATCAGGATGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      54.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 308.6; DB Pred. No. 2.2e-65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches 559;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                              873
                                                                                                                                                                                                                                                                             753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          456
                                                                                                                                                                                                       813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2;
```

```
밁
                         Š
                                                                                                            Ś
                                                                                                                                                          망
                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                         US-09-908-664-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-908-664-3
                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 3
LENGTH: 2289
                                                                                                                                                                                                                                                                        Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 3, Application US/09908664
Patent No. US20020115178A1
                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR FILING DATE: 2000-07-17
NUMBER OF SEQ ID NOS: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Rudolph-Owen, Laura
APPLICANT: Tsai, Fong Yin
TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Millennium Pharmaceuticals, APPLICANT: Meyers, Rachel
                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1414 CAGGAGCAGAACCTTCAGAATAAGGACAAAAAGAAGAAGTCCAAGCCCATCTT 1466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1944 ACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCAT 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1884 GATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC
864 ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACGAGCCTGGCTCGCCCAG 923
                                                                                                                                                            229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        994
                                                                                                                                                                                                                                                                        Local
                                                                  GGCCGCCGCTCCAACCTGGACCTGATGGCCAACAGTGTTGAGGAGGCCCAGATATGGATG
                                                                                                              TTGCTGCGTAGCCTGGAGGAGGAGCTCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT
                                                                                                                                                                                                   TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGGC 803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGAAGGGGAAGAAGTTAACACTTGAGGAAGACCTGGAATATGAGGAAGAAGCAGAA 1353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCCATCAACAAATATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTGAGTTGGAAGAGTCAGAATTGGCCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCCAAGGTGTCT 1883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGGATGGGGTGCTGCCCACTCAGCTGCCCTCGCCTGAGGAGCTTCGGAGGAAGATCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTC 1823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCA 1763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGGATATATACGGGCCCCTGAAGCGGGGGTGC 993
                                                                                                                                                                                                                                                 679;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCAGACCATGGCCCGTCATCTGACTGAGATCCTGGGGGGAGCAGCTGCTGAGCACCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACACCCTGACCTCCCGCATCCTGTTCAAAGATGTCGTGGCCACAGTAGCACAGTATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCTGCGTGGAGGTGGATGTATGGGATGGACCTAGCGGGGAACCTGTCGTTTACCACGGA 1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGC 1583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCCAGACATCAGACTACCCAGTCATCTTGTCCCTGGAGACCCACTGCAGCTGGGAGCAG
                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Meyers, Rachel
Rudolph-Owen,
                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                    6.7%;
54.2%;
                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                    Score 308.6;
Pred. No. 2.2
                                                                                                                                                                                                                                               Mismatches 559;
                                                                                                                                                                                                                                                                    2.2e-65;
                                                                                                                                                                                                                                                                                        DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AND USES THEREFOR
                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                        Length 2289;
                                                                                                                                                                                                                                               15;
                                                                                                                                                                                                                                             Gaps
                                                                     348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1643
                                                                                                                                                                                                                                             2
```

```
δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뭉
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                            Ś
                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1644
                                                                                                                                                                                                                                                                          1294
                                                                                                                                                                                                                                                                                                                                             1824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1764
1414 CAGGAGCAGAACCTTCAGAATAAGGACAAAAAGAAGAAATCCAAGCCCATCTT 1466
                                                                                                                                      1354 CCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                 1234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       349 CGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGCATGGACCATCAGGAGCGCCT---- 404
                                                                   1944 ACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCAT 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTTCGAGAGCTTGCCAGGACATCATCGAGCAG 1283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG 1223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACGTGCTGAGGTGCAGGAACTG 633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTC 1163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGT 1103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGATGGC 983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC 1403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAAGAGGAGCAGAAGGAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAATATGCCTTCAGTCTTTTTCAGGCAGCAGACACG---TCCCAGTCTGGAACCCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAGCTCAACGTGAACCTGCCCCGG 1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCC 1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATATATACGGGCCCTGAAGCGGGGGTGC 993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     тттелесскатесссивальнасилентильное тестесте стесте под тесте под стесте под тесте под 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTTGGATTTCCTC
                                                                                                                                                                                                      GATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTC 1823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCAGACCATGGCCCGTCATCTGACTGAGATCCTGGGGGAGCAGCTGCTGAGCACCACC 1233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCA 1763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCCAGACATCAGACTACCCAGTCATCTTGTCCCTGGAGACCCACTGCAGCTGGGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAAACCACTGCAGTGTCATCCAG 1703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACACCCTGACCTCCCGCATCCTGTTCAAAGATGTCGTGGCCACAGTAGCACAGTATGCC 1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCTGCGTGGAGGTGGATGTATGGGATGGACCTAGCGGGAACCTGTCGTTTACCACGGA 1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGC 1583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GТGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCT 1883
                                                                                                                                                                                                                                                                                                                                                                                                             Tregaredederectechereactechectechectes accadentected 1293
                                                                                                                                                                                                                                                                             ----GGACCAATGGCTGAGCGATTGGTTTCAACGTGGAGACAAAAATCAGGATGGT 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      813
                                                                                                                                                                                                                     1943
```

맑

```
US-09-908-664-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-908-664-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                      Š
                                                                                                                                                                   밁
                                                                                                                                                                                                         á
                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
  밁
                                      Ś
                                                                                망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION: APPLICANT: Millennium Pharmaceuticals,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1, Application US/09908664 Patent No. US20020115178A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: FastSEQ for Windows Version 4. SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Tsai, Fong Yin
TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMA:
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES:
FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR FILING DATE: 2000-07-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Homo sapiens FEATURE: NAME/KEY: CDS LOCATION: (257)...(2545)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ENGTH: 2629
                                                                                                                                                                                                                                                                                            1104 TTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGGGGACCTCTACCTGCTC 1163
                                                                                                                                                                                                                                                                                                                                                                      1044 CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACGCCGATGACCACCAAGGGACGCTGGGT 110:
                                      1284 TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAAC 1343
                                                                                                                        1224 САGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG 1283
                                                                                                                                                                   890 TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTTGGATTTCCTC 949
                                                                                                                                                                                                                                                                                                                                           773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            864 ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACAGCCTGGCTCGCCGCCAG 923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      545 GÉCCGCCGCTCCAACCTGGACCTGATGGCCAACAGTGTTGAGGAGGCCCAGATATGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            804 AGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGGTGGTGGCGCGCACCTGGGTC 863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         485 TIGCIGCGTAGCCIGGCAGAGGAGCTCCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT 544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   744 TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGGC 803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7 Match 6.7%; Score 308.6; DB 10; Length 2629; Local Similarity 54.2%; Pred. No. 2.3e-65;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGATGGC 983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGCATGGACCATCAGGAGCGCCT----
CAAGAGGAGCAGAAGGAGAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGC 1009
                                                                                                                                                                                                                ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGGCCAGCCTGCAGCGCTTCCTG 1223
                                                                                                                                                                                                                                                        GGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACGTGCTGAGGTGCAGGAACTG 889
                                                                                                                                                                                                                                                                                                                                         GAATATGCCTTCAGTCTTTTTCAGGCAGCAGACACG---TCCCAGTCTGGAACCCTGGAA 829
                                                                                                                                                                                                                                                                                                                                                                                                                              679; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Meyers, Rachel
Rudolph-Owen, Laura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches 559; Indels 15; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NOVEL HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AND USES THEREFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 604
```

US-09-804-969-20

2;

```
RESULT | 6
US-09-804-969-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                           SEQ ID NO 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 20, Application US/09804969
Patent No. US20020081595A1
                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
                                                                                                                                                                                            APPLICANT: Sands, Arthur T.

TITLE OF INVENTION: No. US20020081595Alel Human Phospholipases and Polynucleotides
FILE REFERENCE: LEX-0148-USA
CURRENT APPLICATION NUMBER: US/09/804,969
CURRENT FILING DATE: 2001-03-13
                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Hu, YI
APPLICANT: Nepomu
APPLICANT: Donoho
                                                                             PRIOR APPLICATION NUMBER: US 60/189,693
PRIOR FILING DATE: 2000-03-15
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSEQ for Windows Version 4
                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                              PRIOR APPLICATION NUMBER: US 60/188,885
PRIOR FILING DATE: 2000-03-13
ORGANISM: homo sapiens
                       LENGTH: 2709
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGGAGCAGAACCTTCAGAATAAGGACAAAAAGAAGAAATCCAAGCCCATCTT 1722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGAGCAGTGAAGATGCCACCACACTCCCCCTCTCCACAGATGCTCAAGGGCCAAGATCCTC 1823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCAT 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGCAGACCATGGCCCGTCATCTGACTGAGATCCTGGGGGGAGCAGCTGCTGAGCACCACC 1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGGACAAGCTGGACCTGTCATCA 1763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAG 170:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCCTACCTCGTGGGT 1463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGAAGGGGAAGAAGTTAACACTTGAGGAAGACCTGGAATATGAGGAAGAGGAAGCAGAA 1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGGATGGGGTGCTCACTCAGCTGCCCTCGCCTGAGGAGCTTCGGAGGAAGATCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCCAGACATCAGACTACCCAGTCATCTTGTCCCTGGAGACCCACTGCAGCTGGGAGCAG 1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACACCCTGACCTCCCCGCATCCTGTTCAAAGATGTCGTGGCCACAGTAGCACAGTATGCC 1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCC 1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCTGCGTGGAGGTGGATGTATGGGATGGACCTAGCGGGAACCTGTCGTTTACCACGGA 1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC 1403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGC 1583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATATATACGGGCCCTGAAGCGGGGGTGC 1249
                                                                                                                                                                                                                                                                                                       Donoho, Gregory
Hilbun, Erin
Turner, C. Alexander Jr.
Abuin, Alejandro
Friedrich, Glenn
Zambrowicz, Brian
                                                                                                                                                                                                                                                                                                                                                                                                                              Nepomnichy, Boris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1549
                                                                                                                                                                                                                                                              띰
```

```
뭥
      밁
                                       Š
                                                                                 멍
                                                                                                                    Ś
                                                                                                                                                                                                 S
                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                       맑
                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 679;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                           1704 CAGAAGAAAAIGGCCCAGTAICTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCA 1763
                                                                                 1371
                                                                                                                        1644
                                                                                                                                                                                                                                           1251
                                                                                                                                                                                                                                                                                                                        1191
    1431
                                                                                                                                                                                                                                                                                                                                                                                                                                          1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1344
                                                                                                                                                                                                     1584
                                                                                                                                                                                                                                                                                  1524
                                                                                                                                                                                                                                                                                                                                                               1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1104 TITGAAGAGITCIGIGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTC 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1044 CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGT 1103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          774 GAATATGCCTTCAGTCTTTTTCAGGCAGCAGACACG---TCCCAGTCTGGAACCCTGGAA 830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         804 AGCCACCGAGTCGCTGGACCTGGTCTCCACCAGCGAGGTGGCGCGCACCTGGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   744 TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGGC 803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               984 АССТСАССАТТОСССАССТССТССАССТССАССАСАВСТСААССТСААССТСАССТСССССС 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     606 CGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGCATGGACCATCAGGAGCGCCT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           864 ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               486 TTGCTGCGTAGCCTGGCAGAGGAGCTCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT 545
                                                                                                                                                       CACACCCTGACCTCCCGCATCCTGTTCAAAGATGTCGTGGCCACAGTAGCACAGTATGCC
CAGCAGACCATGGCCCGTCATCTGACTGAGATCCTGGGGGAGCAGCTGCTGAGCACCACC 1490
                                                                                                                                                                                                                                                                                                                                                                                                                         ATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCCTACCTCGTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC 1403
                                                                            TTCCAGACATCAGACTACCCAGTCATCTTGTCCCTGGAGACCCACTGCAGCTGGGAGCAG
                                                                                                                TTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAG
                                                                                                                                                                                                 TACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCC
                                                                                                                                                                                                                                         CGCTGCGTGGAGGTGGATGGATGGACCTAGCGGGAACCTGTCGTTTACCACGGA
                                                                                                                                                                                                                                                                            CGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGC 1583
                                                                                                                                                                                                                                                                                                                   GÁCCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATATATACGGGCCCCTGAAGCGGGGGTGC
                                                                                                                                                                                                                                                                                                                                                       TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAAC 1343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAAGAGGAGCAGAAGGAGAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG 1283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTTGGATTTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGCTGACCTACAGCAACCACGACGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG 1223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACGTGCTGAGGTGCAGGAACTG 890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGATGGC 983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCCGCCGCTCCAACCTGGACCTGATGGCCAACAGTGTTGAGGAGGCCCAGATATGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGACCAATGGCTGAGCGATTGGTTTCAACGTGGAGACAAAAATCAGGATGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6.7%;
54.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 308.6; DB 10; Length 2709;
Pred. No. 2.3e-65;
0; Mismatches 559; Indels 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                         1370
                                                                                                                                                                                                                                                                                                                   1250
                                                                                                                                                                                                                                                                                                                                                           1523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1070
                                                                                                                                                                                                 1643
                                                                                                                                                                                                                                                                                                                                                                                                   1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  605
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-835-996A-7
밁
                               ş
                                                                                      밁
                                                                                                                             Ś
                                                                                                                                                                                                                                                                           US-09-835-996A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: US 60/197,137
PRIOR FILING DATE: 2000-04-14
PRIOR APPLICATION NUMBER: US 09/714,936
PRIOR FILING DATE: 2000-011-17
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR FILING DATE: 2000-09-22
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR FILING DATE: 2000-08-03
PRIOR APPLICATION NUMBER: US 09/598,042
PRIOR FILING DATE: 2000-06-20
PRIOR FILING DATE: 2000-06-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 7, Application US/09835996A Patent No. US20020142953A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                           Query Match 6.6%; Score 307; DB 10; Length 1840; Best Local Similarity 54.1%; Pred. No. 5.2e-65; Matches 678; Conservative 0; Mismatches 560; Indels 15
                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn version 3.0 SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Ballinger, Dennis
APPLICANT: Loeb, Debra
APPLICANT: Montgomery, Julie
APPLICANT: Tang, Y. Tom
APPLICANT: Zhou, Ping
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILE REFERENCE: 28110/35915A
CURRENT APPLICATION NUMBER: US/09/835,996A
CURRENT FILING DATE: 2001-04-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Qian, Xiahong
APPLICANT: Wang, Dunrui
TITLE OF INVENTION: MATERIALS AND METHODS RELATING TO LIPID METABOLISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                            FEATURE:
NAME/KEY: CDS
LOCATION: (140)..(1840)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1491 TTGGATGGGGTGCTGCCCACTCAGCTGCCCTCGCCTGAGGAGCTTCGGAGGAAGATCCTG 1550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1764 GTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTC 1823
                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                ENGTH: 1840
  428
                                             804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGGAGCAGAACCTTCAGAATAAGGACAAAAAGAAGAAATCCAAGCCCATCTT 1723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCAT 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC 1943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGAAGGGGAAGAAGTTAACACTTGAGGAAGACCTGGAATATGAGGAAGAGGAAGCAGAA 1610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCT
                          AGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGCACCTGGGTC 863
GĠĊĊĠĊĊĊĊĊŢĊĊĄĄĊĊŤĠĠĄĊĊŤĠĄŤĠĠĊĊĄĄĊĄĠŦĠŦŢŢĠĄĠĠĄĠĠĊĊĊĄĠĄŦĄŤĠĠĄŦĠ
                                                                                                                                    TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTTCAGCATCTACCACGGC 803
                                                                                         TIGCTGCGTAGCCTGGCAGAGGAGCTCCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Loeb, Debra
Montgomery, Julie
Tang, Y. Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tang, Y. Tom
Zhou, Ping
Goodrich, Ryle
Liu, Chenghua
Asundi, Vinod
Zhao, Qing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ren, Feiyan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wehrman, Tom
Drmanac, Radoje
                                                                                                                                                                                    15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1670
                                                                                                                                                                                       2
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                 á
                                                                      B
                                                                                                        S
                                                                                                                                               밁
                                                                                                                                                                                 á
                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                   밁
밁
                                                                                                                                                                                                                                                                                                   1253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1044
                                                                                                                                                 1373
                                                                                                                                                                                                                                                                                                                                                                                                           1584 TACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCC
                                                                                                                                                                                                                                                                                                                                        1644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                864
                                   1884 GATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC 1943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG 1283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG 1223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGACCTCTACCTGCTC 1163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAATATGCCTTCAGTCTTTTTCAGGCAGCAGACACG---TCCCAGTCTGGAACCCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGT 1103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGGATGGC 983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGCATGGACCATCAGGAGCGCCT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCCTACCTCGTGGGT 1463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACGTGCTGAGGTGCAGGAACTG 772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCCTGAGCATTGGCGAGGTCCTGCAGCTGCACAAGCTCAACGTGAACCTGCCCCGG 1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC 1403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTTGGATTTCCTC 832
                                                                                                        дтдалададаладаладстсссадссаласятся доста по поста по пост
Ста по поста по по по по по по
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cecrecereeaegreeacreceaegeareecceaegeaecccarrerecaccareec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAAGAGGAGCAGAAGGAGAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGC 892
CCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCC 1552
                                                                        TTGGATGGGGTGCTGCCCACTCAGCTGCCCTCGCCTGAGGAGCTTCGGAGGAAGATCCTG
                                                                                                                                                                       GTGAGCAGTGAAGATGCCACCACACTCCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTC 1823
                                                                                                                                                                                                                        CAGCAGACCATGGCCCGTCATCTGACTGAGATCCTGGGGGAGCAGCTGCTGAGCACCACC 1372
                                                                                                                                                                                                                                                             CAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCA 1763
                                                                                                                                                                                                                                                                                                 TTCCAGACATCAGACTACCCAGTCATCTTGTCCCTGGAGACCCACTGCAGCTGGGAGCAG
                                                                                                                                                                                                                                                                                                                              TTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAG 1703
                                                                                                                                                                                                                                                                                                                                                                             CACACCCTGACCTCCCGCATCCTGTTCAAAGATGTCGTGGCCACAGTAGCACAGTATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCTGCGTGGAGGTGGATGTATGGGATGGACCTAGCGGGGAACCTGTCGTTTACCACGGA 1192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATATATACGGGCCCTGAAGCGGGGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   543
                                                                                                                                                       1432
                                                                                                                                                                                                                                                                                                       1312
                                                                                                                                                                                                                                                                                                                                                                                   1252
                                                                                                                                                                                                                                                                                                                                                                                                                       1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1523
```

```
Ś
                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                  밁
                                                                                         Ş
                                                                                                                                          밁
                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-800-971-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-800-971-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Sim:
Matches 743;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 3, Application US/09800971
Patent No. US20020098577A1
GENERAL INFORMATION:
APPLICANT: Rachel A. Meyers
TITLE OF INVENTION: 16835, A NOVEL HUMAN PHOSPHOLIPASE C
TITLE OF INVENTION: PANILY MEMBER AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILE REFERENCE: 10448-023001
CURRENT APPLICATION NUMBER: US/09/800,971
CURRENT FILING DATE: 2001-03-06
PRIOR APPLICATION NUMBER: 60/187,453
PRIOR FILING DATE: 2000-03-07
PRIOR APPLICATION NUMBER: 60/188,032
DEIGH ETILING DATE: 2000-03-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR FILING DATE: 2000-03-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
ORGANISM: Homo sapiens
1139 CACCCGCCGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACCAAGGACCACCTGGA 1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 2211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1944 ACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCAT 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1553 CAGGAGCAGAACCTTCAGAATAAGGACAAAAAGAAGAAATCCAAGCCCATCTT 1605
                                                                                                                                              477
                                                                                                                                                                                                                                                                                 959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              545 GGTGGAGCGGTGCATGGCTGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGG 604
                                                                                                                                                                                                                                                                                                                             369
                                                                                                                                                                                                                                                                                                                                                                                                                         909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12
                                           -CACTCCAACAACGACCGTCTAGAGGGGGCTGAGATCGAGGAGTTCCTGCGGCGGCTGCT 593
                                                                                       GGATGACCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTC 1138
                                                                                                                                     AATGGTCAACGTGGACATGAACGACATGTACGCCTACCTCCTCTTCAAGGAGTGTGAC--
                                                                                                                                                                                CAAGCTCAACGTGAACCTGCCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACAC 1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGCGAGGTGGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGA 898
                                                                                                                                                                                                                                                                                                                                                                      CGAGGACAGCCTGGCTCGCCGCCAGCGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGA 958
                                                                                                                                                                                                                                                                                                                                                                                                                    GCGCTGCCTCACCATCGCCTTCAAGGGCCGCCGCAAGAACCTGGACCTGGCGGCGCCCAC 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGCTGCTTCAGCATCTACCACGGCAGCCACCGGGAGTCGCTGGACCTGGTCTCCACCAG 838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGCGAGGGCCACCAGTCCGAGGGCCTGCGGCGCTTC---GGGGGTGCCTTCGCGCCAGC 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGTGAGGGGGGGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAA 778
                                                                                                                                                                                                                              CCGGGCTGACTCCAACCAGGACAGCAAGATGAGCTTCAAGGAGATCAAGAGCCTGCTGAG 476
                                                                                                                                                                                                                                                                          CGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCA 1018
                                                                                                                                                                                                                                                                                                                        CATGAGCCAGCGCGAGCGGCT-----AGACCACTGGATCCACTCCTATCTGCA 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGGCGCATCCCGCGTGCGCCATCGCAGCACATCTTCTTCGTGCAGCACATCGAGGCGGT 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACGTGGCACAAGGAGCGGCTGTACCGGCTGCAGGAGGACGGCCTGAGCGTGTGGTTCCA 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGAGCAC-----CGCTCCTGCATCCG 658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGAGGACGAGGACGTGCGCCCATGCTGCGGGGCTCCCGGCAAGATCCGCTCGCG 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    54.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches 607; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 301.8; DB 10; Length 2211; Pred. No. 9.8e-64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27; Gaps
```

```
Ş
                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                          Ş
US-09-800-971-1
                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                               1311 GGATGGCCGGGCTCTGTCGGATCGGGAGGAGGAGGAGGAGGAGGAGGAGGAAGA 1367
                                                                                                                                                1859 GGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGA 1915
                                                                                                                                                                                                                                                                                                                                                          1739 TGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCCCCTCTCC 1798
                                                                                                                                                                                                                                                                                                                                                                                                           1619 CATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCAT 1678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1559 CGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGT 1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1379 TGAGCACCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTC 1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               891 CTCCCACAACACCTATCTGACTGACTCCCAGATCGGGGGGGCCCAGCAGCACCGAGGCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    831 CACCCACACGTGTGTTCCAGGACATGAACCAGCCCCTTGCCCACTACTTCATCTCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     594 GAAGCGGCCGGAGCTGGAGGAGATCTTCCATCAGTACTCGGGCGAGGACCGCGTGCTGAG
                                                                                                                                                                                                    AGAGCAGCTGAAGGGCCGGGTCCTGGTGAAGGGAAAGAAGCTGCCCGCTGCTCGGAGCGA 1310
                                                                                                                                                                                                                                                  ACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGGAAGAAGCTCCCAGCCAACATCAGCGA 1858
                                                                                                                                                                                                                                                                                                      GEGEGACATECTEGTCACACAGGCGCTGGACTCCCCAAATCCCCGAGGAGCTGCCATCCCC 1250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTCCAAGCCGTGCGGACCATGCCTTCACGCTGTCCCCTTACCCTGTCATCCTATCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGGGAGCCCGTCATCTATCATGGCCATACCCTCACCTCCAAGATTCTCTTCCGGGACGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCT 1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTTAGGGCCTTTGCCCAGGGATGCCGCTGCGTGGAGCTGGACTGCTGGGAGGGGCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        recriredericciecaegoriecciecciecerecaegoriegaerecaerecaarececcea 1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTA 1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCC 1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGCGCCCAGCAGCTCATTCAGACCTATGAGCTCAACGAGACAGCCAAGCAGCATGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGA 1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GATGACACTGGATGGCTTCATGATGTACCTGTTGTCGCCGGAGGGGGGCTGCCTTGGACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCCCCTGAGCTGCTGGAGTTCCT---GGAGGACCAGGGCGAGGAGGGCGCCACACTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        653
```

```
RESULT 9

SEQUENCE 1, Application US/09800971

Sequence 1, Application US/09800971

Patent No. US2002098577A1.

GENERAL INFORMATION:

APPLICANT: Rachel A. Meyers

TITLE OF INVENTION: 16835, A NOVEL HUMAN PHOSPHOLIPASE
TITLE OF INVENTION: 16835, A NOVEL HUMAN PHOSPHOLIPASE
TITLE OF INVENTION: 16835, A NOVEL HUMAN PHOSPHOLIPASE
TITLE OF INVENTION: FAMILY MEMBER AND USES THEREOF
FILE REFERENCE: 10448-023001

CURRENT APPLICATION NUMBER: US/09/800,971

CURRENT FILING DATE: 2001-03-06

PRIOR APPLICATION NUMBER: 60/187,453
PRIOR FILING DATE: 2000-03-07

PRIOR APPLICATION NUMBER: 60/188,032

PRIOR FILING DATE: 2000-03-09

NUMBER OF SEQ ID NOS: 11

SOFTMARE: FastSEQ for Windows Version 4.0

SEQ ID NO 1

LENGTH: 3425

TYPE: DNA

ORGANISM: Homo sapiens
```

```
; REATURE:
; NAME/KEY: CD
; LOCATION: (1
US-09-800-971-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ঠ
                                                      Ś.
                                                                                                                                  밁
                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
NAME/KEY: CDS
LOCATION: (153)...(2360)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           545
                                       1439 GTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTA 1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGAGGACGAGGACGTGCGCGCCATGCTGCGGGGCTCCCGGCTCCGCAAGATCCGCTCGCG 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGCTGCCTCACCATCGCCTTCAAGGGCCGCCGCAAGAACCTGGACCTGGCGGCGCCCAC 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           стретретренествествествествествествения стретренествения с
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGTGAGGGGCAGGTCGGAGGTCTTCCAGCGCTACCCTGACGCAGCTTCGACCCCAA 778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCGGCGCATCCCGCGTGCGCCATCGCAGCACATCTTCTTCGTGCAGCACATCGAGGCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACGTGGCACAAGGAGCGGCTGTACCGGCTGCAGGAGGACGGCCTGAGCGTGTGGTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGTGGAGCGGTGCATGGGTGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGG 604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CATGAGCCAGCGCGAGCGGCT-----AGACCACTGGATCCACTCCTATCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cceccaaeeccaccaerceaaeeccreceececerre---eeeeereccrreeceecaec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTCCAAGGGCCTGGTCCGCCTTCTACTACCTGGACGAGCAC-----CGCTCCTGCATCCG 658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGATGACCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTC 1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGCGAGGTGGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGA 898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAAGCGGCCGGAGCTGGAGGAGATCTTCCATCAGTACTCGGGCGAGGACCGCGTGCTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       сасссесседал сстета сстестся тества сстаса всем ссасса сва ссасствем 1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -CACTCCAACAACGACCGTCTAGAGGGGGCTGAGATCGAGGAGTTCCTGCGGCGGCGGCTGCT 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AATGGTCAACGTGGACATGAACGACATGTACGCCTACCTCCTCTAAGGAGTGTGAC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAAGCTCAACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACAC 1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGGGCTGACTCCAACCAGGACAGCAAGATGAGCTTCAAGGAGATCAAGAGCCTGCTGAG 628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCA 1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAGGACAGCCTGGCTGGCCGCCAGCGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGA 958
                                                                                                                              TGAGCACCATCTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTC 1438
                                                                                                                                                                                                                                                                                                                                                                                                          CCGCGCCCAGCAGCTCATTCAGACCTATGAGCTCAACGAGACAGCCAAGCAGCATGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCT 1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGA 1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               743;
                                                                                                                                                                                                                                                                                                                                     TGCCCCTGAGCTGCTGGAGTTCCT---GGAGGACCAGGGCGAGGAGGAGGCGCCACACTGGC
CTCCCACAACACCTATCTGACTGACTCCCAGATCGGGGGGCCCAGCAGCACCGAGGCCTA 1102
                                                                                                                                                                                                                                                                        GATGACACTGGATGGCTTCATGATGTACCTGTTGTCGCCGGAGGGGGCTGCCTTGGACAA 982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches 607; Indels 27; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 301.8; DB 10; Length 3425; Pred. No. 1.1e-63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              283
                                                                                                                                                                                                                                                                                                                                                                                                                            922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          υ
••
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; Sequence 3293, Application US/09880107 ; Patent No. US20020142981A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-880-107-3293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; OTHER INFORMATION: Genbank Accession No. US20020142981A1 U09117 US-09-880-107-3293
                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
S
                                                                                 망
                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Horne, Darci T.
APPLICANT: Vockley, Josep
APPLICANT: Scherf, Uwe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR FILING DATE: 2000-06-14
PRIOR APPLICATION NUMBER: US 60/237,054
PRIOR FILING DATE: 2000-10-02
NUMBER OF SEQ ID NOS: 3950
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: Gene Expression Profiles in Liver Cancer FILE REFERENCE: 44921-5028-WO CURRENT APPLICATION NUMBER: US/09/880,107 CURRENT FILING DATE: 2001-06-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: US 60/211,379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1499 TECTTEGETCCTECAGECTECCTECCTECETEGAGETGGACTECTGGGATGGGCCCGA 1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 2627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1463 GGATGGCCGGGCTCTGTCGGATCGGGAGGAGGAGGAGGAGGATGACGAGGAGGAAGA 1519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1859 GGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGA 1915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1343
                                                                                                                                                                                                                                                                                                                                                                                                               155 GCGCTGCTGAAGGGCAGCCAGCTCCTGAAGGTGAAGTCCAGCTCATGGAGGAGAGAGCGG 214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             564 GCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGCTCCAAGGGCCTGGTCCGC 623
    735 TCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATC 794
                                                                                                                                                                                                                                                                                                                         624 TTCTACTACCTGGACGAGCACCGCTCCTGCATCCG-----CTGGAGGCCCTCACGC 674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGGGACATGCTGGTGACACAGGCGCTGGACTCCCCAAATCCCCGAGGAGCTGCCATCCCC 1402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GĠĀGĀĀĊĊĀĊTĠĊĠĠĠĊTĠĠĀĠĊĀĠĊĀĠĠĊTĠĊĊĀŤĠĠĊĊĊĠĊĊĀĊĊŤĊTĠĊĀĊĊATCĊT 1342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTCCAAGCCGTGCGCGACCATGCCTTCACGCTGTCCCCTTACCCTGTCATCCTATCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCAT 1678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGGGGAGCCCGTCATCTATCATGGCCCATACCCTCCAAGATTCTCTTCCGGGACGT 1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGT 1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGAGCAGCTGAAGGGCCGGGTCCTGGTGAAGGGAAAGAAGCTGCCCGCTGCTCGGAGCGA 1462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  recegaça ca aççı regaccı retere a recege recege receçe receptare receptare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGA 1858
                                                                                 ACCCCGGAGTCCCAGCTGTTCTCCATCGAGGACATTCAGGAGGTGCGAATGGGGCACCGC
                                                                                                                                                               TTCTACAAGTTGCAGGAGGACTGCAAGACCATCTGGCAGGAGTCCCGCAAGGTCATGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   744;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gene Logic, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Joseph G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6.3%; Score 289.8; DB 10; Length 2627; 54.2%; Pred. No. 8.2e-61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches 587; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                          274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6
```

무 성

밁

```
1815 AAGATICCTCGTGAAGGGGAAGAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGC 1874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1395
                                                                                                                                                                                                                                                                                                    1695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1095 ACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTC 1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           620 GTGGACGACAGCTATGCCCGGAAGATCTTCAGGGAGTGTGAC---CACTCCCAGACAGAC 676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       560 AAGGACAACAAGATGAGCTTCAAGGAGCTGCAGAACTTCCTGAAGGAGCTCAACATCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  33
                                                                                          AACCGACCACTG---GATGGGGTCACCAACAGCCTGCCCTCCCCTGAGCAACTGAAGGGG 1393
                                                                                                                                                          CTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGC 1814
                                                                                                                                                                                                                                                                                                                                                                                                                   AAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGT 1694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TACCACGCTATACTTTCACTTCCAAGATCCTCTTCTGCGATGTGCTCAGGGCCATCCGG 1216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAAACCATCAAC 1634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCTAC 1454
                                                                                                                                                                                                                          CTGGAGCAGCAGCGCGTGATGGCGCGCGCACCTGCATGCCATCCTGGGCCCCATGCTGTTG 1336
                                                                                                                                                                                                                                                                                      GTCATCCAGCAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGAC 1754
                                                                                                                                                                                                                                                                                                                                                      GACTATGCCTTCAAGGCGTCCCCCTACCCTGTCATCCTATCCCTGGAGAACCACTGCACA 1276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAAGGCTGCCGATGCCTGGAGCTTGACTGCTGGGACGGGCCCAACCAGGAACCAATCATC 1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCTGGCTGCCGCTGCAGGTGGACTGCTGCGATGGGCCCCACGGGAGCCCATTGTG 1574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGCTGGAGGACCAGCTAGCCGGGCCCAGCAGCACTGAAGCCTACATCCGGGCACTGTGC 1096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTCCTGCAG 1514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTG 1394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGGCTGCTGGGCATTGATGGC 1334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGTTCCTGCAGCAGCAGCGGGAGGAGGAGGCGGCAGGGCCTGCGCTGGCCCTCTCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACCGCACCTTCGCCGAGGCCGCGGGCCCCAGGGGAGACTCTGTCGGTGGATCAGTTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCCTCATGTACTTACTGTCGGCTGACGGCAGCGCCTTCAGCCTGGCACACCGCCGTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTGAGCGCTACGAGCCCAGCGAGACTACCAAGGCGCAGCGCAGATGACCAAGGACGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCCCTGGAGGACGAGGAGTTGAGGCCTTCTACAAGATGCTGACCCAGCGGGTGGAGATC 736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGCCCCGGCAGAGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGG 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACTGGGTGCTGGGGCTGCACAAGATCATCCACCACTCAGGCTCCATGGACCAGCGTCAG 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCT 914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACGGAGGGTCTGGAGAAGTTCGCCCGTGATGTGCCCGAGGACCGCTGCTTCTCCATTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAAC 1034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGCTACAGCACTGGATTCACTCCTGCTTGCGAA-----AAGCTGACAAAAAC 559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCCGCCAGCGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAAC 974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCAAGGA---CCAGCGCAATACACTAGACCTCATCGCCCATCGCCAGCTGATGCCCAG 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGC 854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            394
```

유 성

S 밁 Ş В Ś 밁 8 밁 Ş 밁 S 밁 Š 밁 S 뮍 Ş 밁 Ş В Š В Ś

```
밁
                                           Ş
                                                                                       밁
                                                                                                                       Ş
                                                                                                                                                                       밁
                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                       ДЬ
                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-728-952-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 11
US-09-728-952-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: 799
CURRENT APPLICATION NUMBER: US/09/728,952
CURRENT FILING DATE: 2000-11-30
NUMBER OF SEQ ID NOS: 101
SOFTWARE: pt FL genes Version 2.0
SEQ ID NO 35
SEQ ID NO 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 743; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 35, Application UP Patent No. US20020111302A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Ujwal, Manusha L.
APPLICANT: Drmanac, Radoje T.
TITLE OF INVENTION: No. US20020111302A1el Nucleic Acids
TITLE OF INVENTION: Polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: CDS
LOCATION: (128)..(2512)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 3068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1875 -----GAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGA 1915
        703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1454 CCTGAGGCCACTGTGGTGTCAGACGAAGACGAGGCTGCTGAGATGGAGGATGA 1506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1394 AAGATCCTGCTGAAGGGGAAGAAGCTCGGGGGGGCTCCTCCCCCCTGGAGGGGAGGGTGGC 1453
                                                                                                                                                                                                                                                   535 GCGCTGCCTCACCATCGCCTTCAAGGGCCGCCGCAAGAACCTGGACCTGGCGGCGCCCCAC 594
                                                                                                                                                                                                                                                                                        779 CTGCTGCTTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAG
                                                                                                                                                                                                        839 CAGCGAGGTGGCGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGA 898
                                                                                                                                                                                                                                                                                                                                    478 CCGCGAGGGCCACCAGTCCGAGGGCCTGCGGCGCTTC---GGGGGTGCCTTCGCGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                  418 GCGGCGCATCCGCGCGTGCGCCATCGCAGCACATCTTCTTCGTGCAGCACATCGAGGCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                            545 GGTGGAGCGGTGCATGGCGATGCAAGAGGGGGATGCAGATGGTGAAGCTGCGTGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity 53.4%;
CCGGGCTGACTCCAACCAGGACAGCAAGATGAGCTTCAAGGAGATCAAGAGCCTGCTGAG
                                       CGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCA 1018
                                                                                CATGAGCCAGCGCGAGCGGCTA-----GACCACTGGATCCACTCCTATCTGCA
                                                                                                                                                                 CGAGGACAGCCTGGCTCGCCGCCAGCGACCAGGGGACCAGTGGCTGAAGCAGACGTTTGA 958
                                                                                                                                                                                                                                                                                                                                                                           GAGTGAGGGGGGGGAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACGTGGCACAAGGAGCGGCTGTACCGGCTGCAGGACGGCCTGAGCGTGTGGTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGAGCAC-----CGCTCCTGCATCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGAGGACGAGGACGTGCGCCATGCTGCGGGGCTCCCGGCTCCGCAAGATCCGCTCGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tang, ing zhou, Ping zhou, Ping arich, Ryle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wang, Jian-Rui
Wang, Dunrui
Yamazaki, Vicki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Liu, Chenghua
Asundi, Vinod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Application US/09728952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Mismatches 607; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 276.8; DB 10; Length 3068; Pred. No. 1.2e-57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                     477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                               RESULT 12
US-09-728-952-64
                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                       S
Sequence 64, Application US/09728952
Patent No. US20020111302A1
GENERAL INFORMATION:
APPLICANT: Tang, Y. Tom
APPLICANT: Zhou, Ping
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1019
                                                                                                                                                                                                                                                                                                                                                                                                                       1477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1199
                                                                                                                                                                                                                                                                                                                                        1537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1664
                                                                                                                                                                                 1657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAAGCTCAACGTGAACCTGCCCCGGCAGAGGGTGAAGCCAGATGTTCAGGGAAGCGGACAC 1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACCCACACGTGTGTGTTCCAGGACATGAACCAGCCCCTTGCCCACTACTTCATCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGAGCACCACGATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTC 1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCT 1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGA 1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACCCGCCGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGA 1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AATGGTCAACGTGGACATGAACGACATGTACGCCTACCTCCTCCAAGGAGTGTGAC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCT------TGGGTCCTGCAGGCTGGCTGCCGCTGCGTGGAGGTGGACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTCCCACAACACCTATCTGACTGACTCCCAGATCGGGGGGCCCAGCAGCACCGAGGCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATGACACTGGATGGCTTCATGATGTACCTGTTGTCGCCGGAGGGGGGCTGCCTTGGACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCC 1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGCGCCCAGCAGCTCATTCAGACCTATGAGCTCAACGAGACAGCCAAGCAGCATGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCCCCTGAGCTGCTGGAGTTCCT---GGAGGACCAGGGCGAGGAGGGCGCCACACTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAAGCGGCCGGAGCTGGAGGAGATCTTCCATCAGTACTCGGGCGAGGACCGCGTGCTGAG 939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   - CACTCCAACAACGACCGTCTAGAGGGGGGCTGAGATCGAGGAGTTCCTGCGGCGGCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGATGACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTC 1138
                                                                                                                                                                                                                                                                                                                                                             CACACTCCCCTCTCCACAGATGCTCAAAGGGGAAGATCCTCGTGAAGGGGAAGAAGCTCCC 1843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCAGTA 1723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCC
                                                                                                                                                                               CGAGGAGGAAGA 1668
                                                                                                                                                                                                                     GATTGACGATGA 1915
                                                                                                                                                                                                                                                                                                 AGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGA 1903
                                                                                                                                                                                                                                                                                                                                        GGAGCTGCCATCCCCAGAGCAGCTGAAGGGCCGGGTCCTGGTGAAGGGAAAGAAGCTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                     CCTCTGCACCATCCTGGGGGACATGCTGGTGACACAGGCGCTGGACTCCCCAAATCCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCAC 1783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTCATCCTATCCCTGGAGAACCACTGCGGGCTGGAGCAGCAGGCTGCCATGGCCCGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTCTTCCGGGACGTGGTCCAAGCCGTGCGCGACCATGCCTTCACGCTGTCCCCCTTACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGGGAGGGGCCAGGAGGGGAGCCCGTCATCTATCATGGCCATACCCTCACCTCCAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGTTAGGTACTGTAGCAGGGGGGCCTTTGCCCAGGGATGCCGGCTGCGTGGAGCTGGACTG
                                                                                                                                                                                                                                                            CĠĊTGCTCGGĂĠĊĠĂĠĠĂŤĠGCCĠĠĠCTCTGTCĠĠATCGGĠÁĠĠĀĠĠĀĠGAGĠAGĠĀŤĠĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1543
                                                                                                                                                                                                                                                                  1656
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-728-952-64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
S
                                                                  밁
                                                                                                                                                                                                   맒
                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hest Local Similarity 53.4%;
Matches 743; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Ujwal, Manusha L. APPLICANT: Drmanac, Radoje T. TITLE OF INVENTION: No. US200 TITLE OF INVENTION: Polypepti FILE REFERENCE: 799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 101
SOFTWARE: pt_FL_genes Version 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/09/728, CURRENT FILING DATE: 2000-11-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 30
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
NAME/KEY: CDS
LOCATION: (128)..(2512)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                       1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          545
      1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       659
                                                                                                                                                                                                       821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCGGCGCATCCCGCGTGCGCCATCGCAGCACATCTTCTTCGTGCAGCACATCGAGGCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTGGAGCGGTGCATGGCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    стветесттельность семенение в посторожение в посторо
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGTGAGGGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAA 778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACGTGGCACAAGGAGCGGCTGTACCGGCTGCAGGAGGACGGCCTGAGCGTGTGGTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGAGGACGAGGACGTGCGCCÁTGCTGCGGGGCTCCCGGCTCCGCAAGATCCGCTCGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGCTGCCTCACCATCGCCTTCAAGGGCCGCCGCAAGAACCTGGACCTGGCGGCGCCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGCGAGGGCCACCAGTCCGAGGGCCTGCGGCGCTTC---GGGGGTGCCTTCGCGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCCAAGGGCTGGTCCGCTTCTACTACCTGGACGAGCAC----CGCTCCTGCATCCG
   TGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGA 1258
                                                                     GAAGCGGCCGGAGCTGGAGGAGTCTTCCATCAGTACTCGGGCGAGGACCGCGTGCTGAG
                                                                                                                                    CACCCGCCGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACCAAGGACCACCTGGA 1198
                                                                                                                                                                                                   - CACTCCAACAACGACCGTCTAGAGGGGGCTGAGATCGAGGAGTTCCTGCGGCGGCTGCT
                                                                                                                                                                                                                                                                  GGATGACCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTC 1138
                                                                                                                                                                                                                                                                                                                                        AATGGTCAACGTGGACATGAACGACATGTACGCCTACCTCCTCTTCAAGGAGTGTGAC--
                                                                                                                                                                                                                                                                                                                                                                                      CAAGCTCAACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACAC 1076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGGGCTGACTCCAACCAGGACAGCAAGATGAGCTTCAAGGAGATCAAGAGCCTGCTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCA 1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CATGAGCCAGCGCGAGCGGCTA-----GACCACTGGATCCACTCCTATCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGAGGACAGCCTGGCTCGCCGCCAGCGCACCAGGGGACCAGTGGCTGAAGCAGACGTTTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCGAGGTGGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wang, Dunrui
Yamazaki, Vicki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Liu, Chenghua
Asundi, Vinod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wang, Jian-Rui
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Goodrich,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     No. US20020111302A1el Nucleic Acids and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 276.8; DB 10;
Pred. No. 1.2e-57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                607; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3068;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                939
                                                                                                                                                                                                                     879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 417
```

```
; SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 24
; LENGTH: 567
TYPE: DNA
ORGANISM: Homo sapiens
; FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                             RESULT | 13
US-09-764-868-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                Sequence 24, Application US/09764868
Patent No. US20020168711A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                      FILE REFERENCE: PTZ32
CURRENT APPLICATION NUMBER: US/09/764,868
CURRENT FILING DATE: 2001-01-17
                                                                                                                                                                                             Prior application data removed - refer to PALM NUMBER OF SEQ ID NOS: 1510
                                                                                                                                                                                                                                                                                                   APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins,
LOCATION: (236)
OTHER INFORMATION: n equals a,t,g,
                        NAME/KEY: SITE
LOCATION: (236)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1657 CGAGGAGGAAGA 1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1784 CACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCC 1843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1,499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               259 GAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCT 1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      997 CCGCGCCAGCAGCTCATTCAGACCTATGAGCTCAACGAGACAGCCAAGCAGCATGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGAGCACCACGATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTC 1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATTGACGATGA 1915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCTGCTCGGAGCGAGGATGGCCGGGCTCTGTCGGATCGGAGGAGGAGGAGGAGGATGA 1656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGAT 1603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCCACACGTGTGTGTTCCAGGACATGAACCAGCCCCTTGCCCACTACTTCATCTCTTC 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGA 1903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGAGCTGCCATCCCCAGAGCAGCTGAAGGGCCGGGTCCTGGTGAAGGGAAAGAAGCTGCC 1596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTCTGCACCATCCTGGGGGACATGCTGGTGACACAGGCGCTGGACTCCCCAAATCCCGA 1536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCAC 1783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTCATCCTATCCCTGGAGAACCACTGCGGGCTGGAGCAGCAGGCTGCCATGGCCCGCCA 1476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCAGTA 1723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTCTTCCGGGACGTGGTCCAAGCCGTGCGCGACCATGCCTTCACGCTGTCCCCTTACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCCCACAACACCTATCTGACTGACTCCCAGATCGGGGGGCCCCAGCAGCACCGAGGCCTA 1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTA 1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GATGACACTGGATGGCTTCATGATGTACCTGTTGTCGCCGGAGGGGGGCTGCCTTGGACAA 1116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCC 1663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGGGAGGGGCCAGGAGGGGAGCCCGTCATCTATCATGGCCATACCCTCACCTCCAAGAT 1356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTTAGGTACTGTAGCAGGGGGGCCTTTGCCCCAGGGATGCCGCTGCGTGGAGCTGGACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCTGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCC 1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----TGGGTCCTGCAGGCTGGCTGCCGCTGGAGGTGGACTG
    or
P
                                                                                                                                                                                                                                                                                                       and
                                                                                                                                                                                                                    or
                                                                                                                                                                                                               file wrapper
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1056
```

```
RESULT 14
US-09-955-999-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             묽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-764-868-24
                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS: 139
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 31
                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 31, Application US/09955999
Publication No. US20030036505A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                             FILE REFERENCE: PT086P1
CURRENT APPLICATION NUMBER: US/09/955,999
CURRENT FILING DATE: 2001-09-20
                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Barash et al.
TITLE OF INVENTION: Signal Transduction Pathway Component Polynucleotides,
TITLE OF INVENTION: Antibodies, and Methods Based Thereon
                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: 60/234,997 PRIOR FILING DATE: 2000-09-25
                 OTHER INFORMATION:
NAME/KEY: SITE
LOCATION: (542)
                                                                        NAME/KEY: SITE
LOCATION: (238)
                                                                                                        LOCATION: (236)
OTHER INFORMATION: n equals a,t,g, or
                                                                                                                                                                              ORGANISM: Homo sapiens
                                                                                                                                                                                                   TYPE: DNA
OTHER INFORMATION: n equals a,t,g, or
                                                                                                                                                NAME/KEY: SITE
                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                    LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: n equals a,t,g, or c NAME/KEY: SITE LOCATION: (542)
OTHER INFORMATION: n equals a,t,g, or c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: n equals a,t,g,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: SITE
LOCATION: (556)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1058 GATGTTCAGGGAAGCGGACAC 1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   547 AATGTTTCANGAAGCCGACAC 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       487 AGAGATACATCAGCTGATGCATAAACTGAATGTTAATCTGCCCCGAAGAAAAGTCNGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        998 CGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCCCCGGCAGAGGGTGAAGCA 1057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              427 ATGGGTGAAGCAGACCTTTGAGGAAGCTGATAAGAATGGTGACGGCTTGCTGAATATTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                938 GTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         699 ATCGACTCCATCCAGGAGGTGAGTGAGGGGCGGCAGTCGGAGGTCTTCCA-GCGCTACCC 757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local 270;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTGATGGCTGGCATCAGTGATGAAGACTCCCTTGCCAAAAAGGCAGAGGACCCATGACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCTGGACCTCATCACCTCCAACCCCGAGGAGGCCCGCACCTGGATCACAGGCCTCAAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGCACCTGGGTCACTGGCCTGCGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGAGGGGAACTTCGACCCAGCTGCTTCACCATCTACCATGGCAACCACATGGAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGGCAGCCACCGCGAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTGATTCCATTTACAAAGTGACTGAGGGCCGGCAGTCTGAAATATTCCNCNTTACAAGC
                                                                                                                                                                                                                        567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                          (238)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (238)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                   Ħ
                                                     equals a,t,g,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 195.4; DB 9
Pred. No. 4.7e-38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches 110;
                                                       or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ç
 a
                                                       ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 567;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1;
                                                                                                                                                                                                                                                                                                                                                                                                 Polypeptide
```

```
APPLICANT: Qian, Xiahong
APPLICANT: Wang, Dunrui
TITLE OF INVENTION: MATERIALS AND METHODS RELATING TO
FILE REFERENCE: 28110/35915A
CURRENT APPLICATION NUMBER: US/09/835,996A
CURRENT FILING DATE: 2001-04-16
PRIOR APPLICATION NUMBER: US 60/197,137
PRIOR FILING DATE: 2000-04-14
PRIOR FILING DATE: 2000-01-14
PRIOR APPLICATION NUMBER: US 09/714,936
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR FILING DATE: 2000-09-72
PRIOR PILING DATE: 2000-09-32
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR APPLICATION NUMBER: US 09/598,042
PRIOR FILING DATE: 2000-08-03
PRIOR FILING DATE: 2000-08-03
PRIOR FILING DATE: 2000-08-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 15
US-09-835-996A-18
; Sequence 18, Application US/09835996A
; Patent No. US20020142953A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; NAME/KEY: SITE
; LOCATION: (556)
; OTHER INFORMATION: n
US-09-955-999-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 270;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
NUMBER OF SEQ ID NOS: 45
SOFTWARE: PatentIn versi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Ballinger, Dennis
                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCGACTCCAGGAGGTGAGTGAGGGGGGGGCAGTCGGAGGTCTTCCA-GCGCTACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AATGITTCANGAAGCCGACAC 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GATGTTCAGGGAAGCGGACAC 1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGAGATACATCAGCTGATGCATAAACTGAATGTTAATCTGCCCCGAAGAAAAGTCNGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cgaggrecrecagergergeagagereaagereaagereaagereaagereaagereaagereaagera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGGGTGAAGCAGACCTTTGAGGAAGCTGATAAGAATGGTGACGGCTTGCTGAATATTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCAGCGCACCAGGGACCA 937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCTGGACCTCATCACCTCCAACCCCGAGGAGGCCCGCACCTGGATCACAGGCCTCAAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGCACCTGGGTCACTGGCCTGCGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGAGGGGAACTTCGACCCCAGCTGCTTCACCATCTACCATGGCAACCACATGGAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGGCAGCCACCGCGAGTC 817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTGATTCCATTTACAAAGTGACTGAGGGCCGGCAGTCTGAAATATTCCNCNTTACAAGC 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTGATGGCTGGCATCAGTGATGAAGACTCCCTTGCCAAAAGGCAGAGGACCCATGACCA
PatentIn version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Goodrich, Ryle
Liu, Chenghua
Asundi, Vinod
                                                                                                                                                                                                                                                                                                                                                                                                                  Liu,
Asundi, v.
Asundi, v.
Tr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tang, Y. To
                                                                                                                                                                                                                                                                                                                                                                                Wehrman, Tom
Drmanac, Radoje
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Montgomery, Julie
                                                                                                                                                                                                                                                                                                                                                                      Ren, Feiyan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Loeb,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  equals a,t,g,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 195.4; DB 9;
Pred. No. 4.7e-38;
0; Mismatches 110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ç
                                                                                                                                                                                                                                                                                                            TO LIPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                            METABOLISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1;
```

```
Ş
                                                         밁
                                                                                   S
                                                                                                                  밁
                                                                                                                                          Ş
                                                                                                                                                                          밁
                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                             맑
                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-835-996A-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
NAME/KEY: CDS
LOCATION: (151)..(1170)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH:
1084
                                                                                      1404
                                                                                                                                             1344
                                                                                                                                                                                                       1284
                                                                                                                                                                                                                                                               1224
                                                                                                                                                                                                                                                                                                                         1164
                                                                                                                                                                                                                                                                                                                                                                                 1104
                                                                                                                                                                                                                                                                                                                                                                                                                                           1044
                                                                                                                                                                                                                                    844
                                                                                                                  964
                                                                                                                                                                          904
                                                                                                                                                                                                                                                                                            784
                                                                                                                                                                                                                                                                                                                                                                                                              667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        744 TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTTCAGCATCTACCACGGC 803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                 TACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC 1403
                                                                                                                                                                                                                                                                                                                                                                           TTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTC
                                                                                                                                                                                                    TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAAC
                                                                                                                                                                                                                                                                                                                                                      GGAGAAGAATTCGTACAGTTCTATAAAGGCATTGACTAAACGTGCTGAGGTGCAGGAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    acregecrecerracerearegecegeareaceaegacageaeaeceregecreeceae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCCGCCGCTCCAACCTGGACCTGATGGCCAACAGTGTTGAGGAGGCCCAGATATGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATAT
                         GACCAGCTCATGTCCCAGTCACGGGTGGACATGTAT 1499
                                                                                   CAAGAGGAGCAGAAGGAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGC
                                                                                                                                                                                                                                                              CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG 1283
                                                                                                                                                                                                                                                                                            TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTTGGATTTCCTC
                                                                                                                                                                                                                                                                                                                       ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG 1223
                                                                                                                                                                                                                                                                                                                                                                                                              GAATATGCCTTCAGTCTTTTTCAGGCAGCAGACACG---TCCCAGTCTGGAACCCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----GGACCAATGGCTGAGCGATTGGTTTCAACGTGGAGACAAAAATCAGGATGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGCATGGACCATCAGGAGCGCCT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGCTGCGTAGCCTGGCAGAGGAGCTCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT
                                                                                                                  391;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 h 3.1%;
Similarity 51.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches 350;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 146; DB 10;
Pred. No. 5.3e-26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1490;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15;
                                                                                                                                                                                                                                                                                                                                                                                 1163
                                                                                                                                                                                                       1343
                                                                                                                                                                                                                                    903
                                                                                                                                                                                                                                                                                            843
                                                                                                                                                                                                                                                                                                                                                      783
                                                                                                                                                                                                                                                                                                                                                                                                              723
                                                                                                                                                                                                                                                                                                                                                                                                                                          1103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            438
                                                                                                                                                                          963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2
```

Search completed: March 28, 2003, 22:07:46 Job time: 449 secs

•,			 · · · · · · · · · · · · · · · · · · ·	
•				
-				
		,		

```
Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Word size
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Listing first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ı
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seq length: 0 seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      nucleic search, using sw
                                                                                                                                                                                                                    33.

34.

55.

6...

6...

76.

112.

112.

113.

114.

115.

115.

116.

116.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.

117.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OLIGO_NUC Gapop 60.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-927-112-1
4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      March 28, 2003, 21:31:24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2054640 seqs, 14551402878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenEmbl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tcgcgatctagaactagtgg.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gb ba: *
gb intg: *
gb on: *
gb ov: *
gb pat: *
gb ph: *
gb ph: *
                                                                                                                                                          em_ov:*
em_pat:*
em_pat:*
em_pl:*
em_pl:*
em_ro:*
em_ro:*
em_nto:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gb_pr:*
gb_ro:*
gb_sts:*
gb_sy:*
gb_un:*
gb_vi:*
em_ba:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      em mu: *
em on: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       em_fun:*
em_hum:*
em_in:*
em_htgo_hum:*
em_htgo_mus:*
em_htgo_other:*
                                                                              em_htg_mam:*
em_htg_vrt:*
em_sy:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    chosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Search time 13290 Seconds
(without alignments)
10149.850 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .ggtaacggggcccagccccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4109280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4635
```

O

00000

0 0

Pred. No. is the number of results predicted by chance to have ρj

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.

Score Query Match 5 12889 5 142649 5 146549 5 158634 5 165394 5 1677411 5 1777411 5 1778341 5 179270 5 199762 5 199762 5 199762 5 199762 5 199768 5 199818 5 191508 5 191508 5 191508 5 196508 5 226966 77863 5 174647 5 1525 190494 67142 621 176291 6946 154736 2480 106323 Length 2419 2512 2614 3111 4408 4457 245 976 DB 17 HSM800908 OCPLCMR AF111852 HSG6PT2 HUMPLCA AF078163 AF097831 HSA17864 AL391139 AP0009087 AC11244 AP0009087 AC127682 AC1101835 AC1101835 AC1126653 AC127633 AP0000839 AC127633 AC127633 AC127633 AC127633 AC129976 AB007919 AL139246 BC019679 AL513477 AC120432 HSA338904 AC023583 AC121463 AC094559 AF110821 H AL831788 HS776M4T MMU296951 ALIGNMENTS ALB31788 Mus muscu AC120432 Mus muscu AJ338904 Homo sapi AC023583 Homo sapi AC023583 Homo sapi AC121463 Rattus no AF110821 Homo sapi Z49747 O.cuniculus Af111552 Homo sapi AF116863 Homo sapi AF116863 Homo sapi AF116863 Homo sapi AF078163 Homo sapi AF078163 Homo sapi AF078163 Homo sapi AF097831 Homo sapi AF481053 Mus muscu AL391139 Human DNA AF481053 Mus muscu AL022394 Human DNA AF481053 Mus muscu AL02394 Homo sapi AC112440 Rattus no AC015696 Homo sapi AC112476 Rattus no AC108350 Rattus no AC127633 Rattus no AP000837 Homo sapi AC127633 Rattus no AC127633 Rattus no AP000833 Homo sapi AC127633 Rattus no AP000833 Homo sapi AX402958 Sequence AX392826 Sequence AX304472 Sequence Description AC009061 AC021091 AL513477 AL139246 AB007919 AL442031 H.sapiens AJ296951 Mus muscu AC129979 Mus muscu 6 Human DNA 9 Homo sapi 7 Human DNA Homo sapi Homo sap: Homo sapi Mus muscu Rattus no Homo sapa

იიი

	AUTHORS	REFERENCE			ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION	DEFINITION	Locus	AX304472	RESULT 1
Yue,H., Khan,F.A., Gandni,A.K., Ad-Ioung, J., Edifer, Notario, For Elliott, V.S., Ding, L. and Thornton, M.	Das, D., Reddy, R., Yao, M.G., Nguyen, D.B., Lu, I., IIIDOUTEY, C., I.	1	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo:	Eukaryota; Metazoa; Chordata; Craniaca; Verrepidica; Eucereoscomi,	Homo sapiens	human.		AX304472.1 GI:17383843	AX304472	sequence 10 from Patent W00185956.	DNA TIHEAT		

```
5
                                                          В
                                                                                       5
                                                                                                                              밁
                                                                                                                                                     δ
                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                              片
                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 69.1%;
Best Local Similarity 99.9%;
Matches 3405; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                           1607
                                                                                             1847
                                                                                                                                                              1787
                                                                                                                                                                                             1487
                                                                                                                                                                                                                               1727
                                                                                                                                                                                                                                                              1427
                                                                                                                                                                                                                                                                                                                               1367
                                                                                                                                                                                                                                                                                                                                                                                               1307
                                                                                                                                                                                                                                                                                                                                                                                                                                1547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1,007
                                                                                                                                                                                                                                                                                              667
                                                                                                                                                                                                                                                                                                                                                                 1607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     827
TGACGATGACTGCAAGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAA 1966
                                                                                                                                         GACTGACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCAC 1786
                                                  CAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGAT 1666
                                                                        CAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGAT 1906
                                                                                                                     ACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGGAAGAAGCTCCCAGC
                                                                                                                                                                                     GACTGACATCCTTGGGGACCAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCAC
                                                                                                                                                                                                                                                      GATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCAGTATCT
                                                                                                                                                                                                                                                                                     GATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCAGTATCT 1726
                                                                                                                                                                                                                                                                                                                       CTTCAAAGACGTCATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGT 1426
                                                                                                                                                                                                                                                                                                                                                                                                             GGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCT 1606
                                                                                                                                                                                                                                                                                                                                          CTTCAAAGACGTCATTGAAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGT 1666
                                                                                                                                                                                                                                                                                                                                                                                      GGATGGGCCCGACGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCT 1366
                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGTGGACATGTATGCTTGGGTCCTGCAGGCTGGCTGCCGTGGAGGTGGACTGCTG 1306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTGGACATGTATGCTTGGGTCCTGCAGGCTGCCGCTGCGGTGGAGGTGGACTGCTG 1546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTCATCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTCATCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACG 1486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CATCTTCAACCCTGAGCACCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTA 1186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATCTTCAACCCTGAGCACCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTA 1426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGA 1126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGA 1366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTGACCCTCGAGAGCCTGCCAGGACATCATCGAGCAGTTTGAGCCCATGCCCAGAAAACAA 1306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAA 1066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGG 1246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACAA 946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGAAGCGGACACGGATGACCAACGAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTA 1126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAAGATGATGTCCACCCGCGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACAA 1186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGAAGCGGACACGGATGACCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTA 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lipid metabolism enzymes
Patent: WO 0185956-A 10 15-NOV-2001;
Incyte Genomics, Inc. (US)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
/db_xref="taxon:9606"
/note="Incyte ID No: 7472768CB1"
1327 c 1370 g 724 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 3205;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 6; Length 4237;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                     1606
                                                                                                                                                                                        1546
                                                                                                                                                                                                                                                         1486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

987 CAGCAGCATGATGCCAGGCTACAGACACGTGTAC 	dd VQ
GCGTGACTTCATTGGCCAG <i>I</i> CGTGACTTCATTGGCCAG <i>I</i>	Db Q9
867 CACCTGGGAGGAGACCCTGGTTTTCATGC	B 8
567 GCTCCCTGTGGACT	Db 43
TICLE SCHOOL SOURCE SO	S B &
447 GCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGA 250	}
387 GCCTGGGTGCATGTGCCAGGGCGTGTTCAACCCCCAACTCGGAGGACCCCCTGCCCGC	S S
627 GCCTGGGTGCATGTGCCAGGGCGTGTTTCAACCCCA	, Qy
7 GATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCA	D
267 GCAGCCCTTCTGG	B &
207 GERGERTETECCGCATCTACCCTCCTCCTACCGTGGACTCCAGCAACTACAACCC 226	? ;
447 GCAGCAGCTCTCCCGCATCTACCCTCCTACCGTGTGGACTCCAGCAACTACAACCC 250	Qy
CGAGACCAAGGCCCA	Db s
387 CGAGACCAAGGCCACCAGATTCTGCAGAGAAGCCAGGAAGTACTACTACTTACCTTTCAGATACCTTTCTAGATACCTTTCTAGATACCTTTCTAGATACCTTTCTAGAGAGAG	δ <u>ξ</u>
327 CGTGGCCACCACGACATAGAGATGGAGGGGGGGGTCCCAGCTGGCAGGTGTCGTCCTTCAG 23	P &
67 GCAGAAGAAGACCA: 27 GCAGAAGAAGACCA:	B &
967 CGTGGAGGAGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCCAGAGGGCCAAGAGCCCAGAGGGCCAGAGCCCG 202	Д
207 CGTGGAGGAGGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGGGGGGCGACCCG 226	Q
147 CGTCGTGGGAAGCTTCTCCAGGCGCAAGA 	DB 03
847 GGCTGAAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGCCAGCAGCAGCAGCATGGCC	DЬ
087 GGCTGAAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGCCAGCAGAGACGCAATGGCCGC	Q
787 CCCCAACAACTTCTCCGTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAA 184	Db
027 CCCCAACAACTTCTCCGTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAA	δ
1727 CACTGCTAAGAGGAAACTGGATTCCCTCATCAAGAGTTCGGAAGATTCGGGGACTGTGAGGA 2786	문 4
66 / IGACGAIGACIGCAAGCICCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAA 172 967 / CACTGCTAAGAGAGAAACTGCATTCACATGAAAGAATGCATGC	O E
	7

```
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                  뭉
                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                       밁
                                                                                                                            Ş
                                                                                                                                                             밁
                                                                                                                                                                                    Ś
                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                        밁
밁
                        δ
                                                   망
                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3287
                                                                                4007
                                                                                                           3707
                                                                                                                                   3947
                                                                                                                                                                                                                   3587
                                                                                                                                                                                                                                               3827
                                                                                                                                                                                                                                                                          3527
                                                                                                                                                                                                                                                                                                                               3467
                                                                                                                                                                                                                                                                                                                                                          3707
                                                                                                                                                                                                                                                                                                                                                                                    3407
                                                                                                                                                                                                                                                                                                                                                                                                               3647
                                                                                                                                                                                                                                                                                                                                                                                                                                          3347
 3827
                           4067
                                                      3767
                                                                                                                                                              3647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAA 3106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGCCGCCACATGCATGAAGTGTGTGGTGGGATCCTGCGCCGGCGTGAACACCCGGGGGCCT 3526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAAGAGCCCTGTGCGAGTGCGGCCCCCGCGTGTCCTGGACGGCCCCGGGCCTGCTGGAAT 3466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCCCAGGAGGGGCCCGGCAGCGGCAGCCCCCGAGGTAAGGCGCCCAGCTGCGGTGGCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCCGGGCCCGGACCTGCTCCGGAAGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGCCAGAAGCCGGGCCGCAGGGGCTTCCCCGGAGCTGGTCCTGGGTACACGGGACACAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCGGCCCGGCCTCCGTTAGCCAGCGGATCCTGCGGCGACCACCGACCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGCCTCTTCCTCCGAGGCCCAAAGCCCCGGCTCGCTGGACAGTCATGCTGGGCGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCC
                                                                                                                                                                                                                                                                                                                                               TAGCGGCTCCATGTCCTCGGACTCCAGCAGCCCAGACAGCCCGGGCATCCCCCGAAAGGTC
                                                                                                                                                                                                                                                                                                                                                                                                     | CCCGGGGAGAAGAAGAGAGGCCCCCAAGGGTCCTGGGGCCTGGAGGCAGGGTCCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCCCGGGCCCGGGCTGACTCACTGGGGGGCCCCCTGTGTGGCCTGGACCCTCACGCTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCCCCACATGCATGAAGTGTGTGGGGATCCTGCGCCGGCGTGAACACCGGGGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAGAGCCCTGTGCGAGTGCGGCCCCCGCGTGTCCTGGACGGCCCCGGGCCTGCTGGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCCCAGGAGGGGCCCGGCAGCGCAGCCCCGAGGTAAGGCGCCAGCTGCCGTGGCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCCAAGGGGTGGCAGACGATGTGGTGCCCCCGGGCCCGGACCTGCTCCGGAAGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGCCAGAAGCCGGGCCGCAGGGGCTTCCCCGGAGCTGGTCCTGGGTACACGGGACACAGG
                                                                                                                                                                                                                                  CTTGTTTGCTCAAAAGCTGGAGGAGATCAGGAGTAAATCCCCCATGTTCTCCCCCCGGTAA 3886
                                                                                                                                                                                                                                                                                        CCCCGCTGGCCTGAGGGTGCCTGCAGGCAACCGGGGGGCCCTGCAGGGAGAGATGAGTGC
                                                                                                                                                                                                                                                                                                                                                                                     CCCGGGGAGAAGCAGAGAGGCCCCCAAGGGTCCTGGGGGCCTGGAGGCAGGGTCCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                            ecccegeccegecreacreacregegecccccrerregeccreeacccreacecrar
 CTCCTGTCTGAGCTTGAGGCCCTGGGACTTGGGTGGAGCTGGTTTGAGGCCCGACAGGCT
               CTCCTGTCTGAGCTTGAGGCCCTGGGACTTGGGTGGAGCTGGTTTGAGGCCCGACAGGCT
                                                                    TGCTGCTGCTTCTGCGTGGACGGTGTCGCCTCGTGTGCTCGTGGTCGTGGCTCTGTATCC 4006
                                                                                                                                                              gececretrigecerigerecrecedeacececerigearigeriagecriggereace
                                                                                                                                                                                           GCCCCTCTTGCCCTGCGTGGTCCTCCCGCACGCCCCTGGCATGGCTGGGCCTGGGTCACC
                                                                                                                                                                                                                   CTTGTTTGCCCAAAAGCTGGAGGAGATCAGGAGTAAATCCCCCATGTTCTCCGCCGGTAA
                                                                                                                                                                                                                                                                        CCCCCGCTGGCCTGAGGGTGCCTGCAGGCAACCGGGGGCCCCTGCAGGGAGAGATGAGTGC
                                                                                                                                                                                                                                                                                                                               TAGCGGCTCCATGTCCTCGGACTCCAGCAGCCCAGACAGCCCGGGCATCCCCGAAAGGTC
                                                      GTGGCACTGTCTCCGTGGCACTCTGCTCCCTTGGCTTGCCTGTGGCCCATAGCCCCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2926
                                                                                                                                                                                                                                                                                                       3826
                                                                                                                                                                                                                                                                                                                                                             3766
                                                                                                                                                                                                                                                                                                                                                                                        3466
                                                                                                                                                                                                                                                                                                                                                                                                                                             3406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3286
                                                                                   4066
                                                                                                                                                                 3706
                                                                                                                                                                                                                                                                                                                                  3526
                                                                                                                                                                                                                                                                                                                                                                                                                  3706
                              4126
                                                                                                              3766
                                                                                                                                                                                             3946
  3886
                                                       3826
                                                                                                                                                                                                                                                                              3586
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 2
AK074149
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4127
                                                                                                                                                                 gene
                                                                                                                                   CDS
                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGCCCCAGGGCTTCGCTGCTTTGGGCTGAAGCACCCCACTAGAAGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCTCCTGCGCCCCTGGGACGCCTGGAGCCTGCTGAGTGCTGCGTGGAGTAGATTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCAGGCTCCAGGGGTCCCTACTGGGAAGTCTGATGTGGGCAGGTAGTGCAGCTGCTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gccccrccggcrgggcgcrrccccaaacrcaccrccrgggcggcrggcgaccrgcarggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCCCTCCGGCTGGGCGCTTCCCCAAACTCACCTCCTGGGCGGCTGGCGACCTGCATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCCCCAGGGCTTCGCTTTTGGGCTGAAGCACCCCACTAGAAGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCTCCTGCGCCCTGGGACGCCTGGAGCCTGAGTGCTGCGTGGAGTAGATTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCAGGCTCCAGGGGTCCCTACTGGGAAGTCTGATGTGGGCAGGTAGTGCAGCTGCTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens mRNA for FLJ00222 LAK074149
                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (21-JAN-2002) Takahiro Nagase, Kazusa DNA Research Institute, Department of Human Gene Research; 1532-3, Yana, Kisarazu, Chiba 292-0812, Japan (E-mail:cdnainfo@kazusa.or.jp, URL:http://www.kazusa.or.jp/NEDO, Tel:81-438-52-3913, Fax:81-438-52-3914)
                                                                                                                                                                                                                                                                                                                                  NEDO human cDNA sequencing project supported by Ministry of Economy, Trade and Industry of Japan; cDNA full insert and 5'- & 3'-end one pass sequencing: Research Association for Biotechnology; cDNA library construction and clone selection: Kazusa DNA Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 (bases 1 to 4411)
Jikuya, H., Takano, J., Nomura, N., Kikuno, R., Nagase, T. and Chara,
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AK074149.1 GI:18676645
fis (full insert sequence)
Homo sapiens adult spleen cDNA to mRNA, clone:FLJ00222
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Published Only in Database (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               spleen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Jikuya,H., Takano,J., Nomura,N., Kikuno,R., Nagase,T. and Ohara,O. The nucleotide sequence of a long cDNA clone isolated from human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                     Institute.
                                                                                                                                                                                                                                  <u>c</u>1
                                                                                                                                                                                                                                                                                                    Location/Qualifiers
            /evidence=not_experimental
/product="FLJ00222 protein"
/protein_id="BAB84975.1"
/db_xref="GI:18676646"
                                                                                                                                                 /gene="FLJ00222"
                                                                                                                                                                                                /tissue_type="spleen"
/dev_stage="adult"
                                                                                                                                                                                                                                                                  organism="Homo sapiens"
translation="AEEEMESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEG"
                                                                                 codon_start=2
                                                                                                   'note="Start codon
                                                                                                               /gene="FLJ00222"
                                                                                                                                                                                 note="vector:pBluescriptII"
                                                                                                                                                                                                                                    db_xref="taxon:9606"
clone="FLJ00222"
                                                                                                                                                                                                                                                                                       .4411
                                                                                                                                    .1972
                                                                                                    18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  p mRNA
                                                                                                    not
                                                                                                    identified
                                                                                                                                                                                      SK plus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRI 15-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

DEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSET
KAHQILQQKPAQYLRENQQDLSRIYPSSYRVDSSNYNDPFWNACCQMVALNYQSSGR
MLQLNRAKFSANGGCGYVLKPGCMCQGVPRNNSEDPLPGQLKKQLVLRIISGQQLPKP
RDSMLGGRGEIIDPFVEWIIGLPVDCSSEQTRVVDDNGFNPTWSEDTLVFMVHMFBIA
LVRFLVWDHDPIGRDFIGQRTLAFSSMWPGYRHYYLBGMEBASIFVHVANVSDISGKVK
QALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSGRILRRTASAPTKSQKPGRRGFPEL
VLGTRDTGSKGVANDTVVPGGPGPAFEAPAQBGPGSGSPRGXAPAAVAEKSPRVRVERLR
VLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSL
GAPCCGLDPHAIFGRSKGVANATPAGKLEEIRSKSPBWFBGGSGSMSSDSSSPDSPGIFBRSPRWPEG
GAPCCGLDPHAIFGRSGALFAQKUEEEIRSKSPBWFSAGKFLLPCVVLPHAPGMAGPGSPAAAS
AWTVSPRVLVLVALYPWHCLRGTLLPWLAACGP"

BASE COUNT ORIGIN Query Match Best Local Simi Matches 2474; 2881 2761 2701 2581 2521 2461 2821 2641 2401 2281 2161 2341 2221 2101 TGGAGTCTGGGGAGGATGCCGGGGCCAGCAGCAGCGCAATGGCCGCCTCGTCGTCGTGGGAAGCT 2160 555 495 435 375 735 315 255 195 135 Local Similarity 75 15 CCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTTCCTCGTCTGGGACC 2940 ACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACT GCCAGGGCGTGTTCAACCCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGC TGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGGCGCGCATCCCATGCTGGGGG ACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTGCATGT ACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTGCATGT 2640 GCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCCCTTCTGGA 2520 GCAGCAGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGGAGA GCAGCAGGAGCAGACCCGCGTGGTGGACGACGACGGGTTCAACCCCACCTGGGAGGAGA GCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGC ACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCGGATGCTGCAGCTGA 2580 ACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCAGCTCTCCC ACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGACCAAGGCCC 2400 ACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACT TGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACTCCATGCTGGGGG ACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCGGATGCTGCAGCTGA GCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCCCTTCTGGA ACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCAGCTCTCCC 374 ACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGACCAAGGCCC 314 TCTCCAGGCGCAAGAAGAAGGCAAGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAGGAG TGGAGTCTGGGGAGGATGCCGGGGGCAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCT 74 TCTCCAGGCGCAAGAAGAAGGCAAGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAG 134 740 Conservative 49.1%; 99.8%; 0; Mismatches Score 2274; Pred. No. 0; DΒ 9; Length 4411; 4. Indels 0; Gaps 2880 734 2820 674 2760 614 2700 554 494 434 2460 254 0

밁 Š 밁 8

В δ В 8 밁 Š

밁 Ş B

CCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGTCTGGGACC

854

Ś 밁 Ś 밁 Ş 뫄 Ş Ş

B Ś DЪ Ş В Ş

DЬ

3961 CGTGGACGGTGTCGCCTCGTGTGCTCGTGGCTCTGTATCCGTGGCACTGTCTCC 4020	Db Qy
3901 GCGTGGTCCTCCCGCACGCCCCTGGCATGGCTGGGCCTGGGTCACCTGCTGCTTCTG 3960	D Q
3841 AGCTGGAGGAGATCAGGAGTAAATCCCCCATGTTCTCCGCCGGTAAGCCCCTCTTGCCCT 3900	Db
3781 AGGGTGCCTGCAGGCAACCGGGGGGCCCTGCAGGGAGAGATGAGTGCCTTGTTTGCTCAAA 3840 	ОУ
3721 CCTCGGACTCCAGCAGCCCAGACAGCCCGGGCATCCCCCAAAAGGTCCCCCCGCTGGCCTG 3780	Qy Db
3661 GAGAGGCCCCCAAGGGTCCTGGGGCCTGGAGGCAGGGTCCAGGCGGTAGCGGCTCCATGT 3720	D QY
01 CTGACTCACTGGGGGCCCCCTGCTGTGGCC 	DB 99
41 CACCCAGCCCGGGGCCTGCAAGCAGCAGGCAGCCAGCCATTCGCCAGCAGCC 	Db Qy
81 TGAAGTGTGTGGTGGGATCCTGCGCC 	DP GA
3421 GAGTGCGGCCCCCCCGCGTGTCCTGGACGGCCCCGGGGCCTGCTGGGATGGCCGCCACATGCA 3480	Db Qy
Nω	D Qy
io ū	Qy db
	Db Qy
3181 CCGTTAGCCAGCGGATCCTGCGGCGCACCAGCGCCCCCGACCAGAGACCCAGAAGCCGG 3240	Qy Db
3121 GAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCCGGGCCCCGGCCCT 3180	Ор
61 CTGTCAGTGACAT	Db Qy
01 CAGGCTACAGACACGTGTACCTAGAAG 	dg VQ
41 ACGATCCCATCGGGCGTGACTTCATTGGCC	Db Qy

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멍
                                                                                         BASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
Ś
                                                                                                                                                                                                                                                                                                                                                                                                             LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                         AX402958
                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                     TITLE
JOURNAL
                                            Query Match
Best Local Similarity
                               Matches
                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2055
                                                                                                                                                            source
 112 GGCCCTGAGGCTGAGGGGCTGAGTGCTCATTCCAGCCGCCTCGGGGAACCCCGGGCTGGGA 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGGCACTCTGCTCCCTTGGCTTGCCTGTGGCCCATAGCCCCAGCCCTCCTGTCTGAGCT 4080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGGGACTGGGGGCCATGTACCATCCCATTCCCACCTCCTAGGGCAGGCTCCAGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCGCTTCCCCAAACTCACCTCCTGGGGGCGGCTGGCGACCTGCATGGCCCTGATGCCTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGAGGCCCTGGGACTTGGGTGGAGCTGGTTTGAGGCCCGACAGGCTGGGAAGAACCAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGGCACTCTGCCTTGGCTTGCCTGTGGCCCATAGCCCCAGCCCTCCTGTCTGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCTTCCCCAAACTCACCTCCTGGGCGGCTGGCGACCTGCATGGCCCCTGATGCCTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTCTTGCTGAGGGTCTGGGGCCGGGACTGTGGCCTGACATGCTGGGCCCCCTCCGGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTCTTGCTGAGGGTCTGGGGCCGGGACTGTGGCCTGACATGCTGGGCCCCTCCGGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGAGGCCCTGGGACTTGGGTGGAGCTGGTTTGAGGCCCGACAGGCTGGGAAGAACCAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTGCCCCCACCCACGCT 4578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TACACGGAGCCCGCCACACCACCCTGCCCCTCCAGACCCCCCGACCAAGCTTTCCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGGACGCCTGGAGCCTGCTGAGTGCTGCGTGGAGTAGATTCCCTGGGCCCCAGGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCCCTACTGGGAAGTCTGATGTGGGGCAGGTAGTGCAGCTGCTGCGGCCTCTCCTGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGGGACTGGGGGCCACGTACCATCCCATTCCCACCTCCCACGGGCAGGCTCCAGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGCCCCCACCCACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TACACGGAGCCCGACACCACCCTGCCCCTCCAGACCCCCTGACCAAGCTTTCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTGCTTTGGGCTGAAGCACCCCAATAGAAGGGTGTCTCCTTAGCCTGGAGGGAAGGGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGGACGCCTGGAGCCTGCTGAGTGCTGCGTGGAGTAGATTCCCTGGGCCCCAGGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCCTACTGGGAAGTCTGATGTGGGCAGGTAGTGCAGCTGGTGGGGGGTCTCCTGCGCCCC
                              2162;
                                                                                                                                                                                                                                                                                                                                                                                                Sequence 10 from Patent
AX402958
                                                                                                                                                                                                                   Tang,Y.T., Azimzai,Y., Das,D., Thornton,M., Lu,D.A. Tribouley,C.M., Yue,H., Gandhi,A.R., Walia,N.K., Kh Yao,M.G., Hafalia,A.J., Elliott,V.S., Patterson,C., Ramkumar,J., Nguyen,D.B. and Baugn,M.R. Lipid metabolism molecules
                                                                                                                                                                                                                                                                                                                        Homo sapiens
Eukaryota; M
                                                                                                                                                                                    Patent: WO 0204490-A 10 17-JAN-2002; Incyte Genomics, Inc. (US)
                                                                                                                                                                                                                                                                                                                                                                                  AX402958.1
                                                                                                                                                                                                                                                                                                                                                                                                                             AX402958
                                                                                                                                                                                                                                                                                                            Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                     human
                                                                                                       499
                              45.6%; Scilarity 100.0%; P
Conservative 0;
                                                                                                       gu
                                                                                                     /organism="Homo sapiens"
/db xref="taxon:9606"
/note="Incyte ID No: 2965233CB1"
/note="Incyte ID 375 t
678 c 691 g 375 t
                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                        Metazoa;
                                                                                                                                                               . 2243
                                                                                                                                                                                                                                                                                                                                                                                  GI:21387941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2492
                                                                                                                                                                                                                                                                                                           Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
                              Score 2112; DI
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                WO0204490.
                                                                                                                                                                                                                                                                                                                                                                                                                              ď
                                                              DB
                                                                                                                                                                                                                                                                                                                                                                                                                              DNA
                                                            ς.
                               1;
                                                              Length 2243;
                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                  Khan, F.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                PAT
                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                 07-JUN-2002
                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4200
                                                                                                                                                                                                                                                                   Lu, Y.,
                                  0
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                     Š
                                                                                                                                                                        Ş
                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                            밁
              S
                                         밁
                                                              S
                                                                                              В
                                                                                                                                                 뮍
                                                                                                                          1072
                                                                                                                                                                              1012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   412
                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                         892
                                                                                                                                                                                                                                                                                                                                              832
                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                   772
                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                       712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                               961
                                                                                                                                                    901
                                                                                                                                                                                                                                    952
                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGGCTGGGCACCACCAGGCTTGGGTGTGTGATGCGCTGCTGGCCCAGGCTACACCCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACCCATGCCTGGGGGTGAGCCTGGAGCCAGGGCAGTGCGGTGAGAGGGCTCCGGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGGGACACCGGGGGCCCTGGGAGCAGAGAGACCTCAGAGCAGCCTCCTCCTGCCTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGCTGGGCACCACGCTTGGGTGTGTGATGCGCTGCTGGCCCAGGCTACACCCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCTTCCGCCTGAGGACCCAGGGCCGGATCCGGAGAGCAGGTGGCTTTTCTTGAGCGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCATCCGCTGGAGGCCCTCACGCAAGAACGAGAAGGCCAAGATCTCCATCGACTCCATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCATCCGCTGGAGGCCCTCACGCAAGAACGAGAAGGCCAAGATCTCCATCGACTCCATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGCTGCGTGGCGGCTCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACATTCTGCCCGTGGTGGAGCGGTGCATGGGTGCCATGCAAGAGGGGGATGCAGATGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCTTCCGCCTGAGGACCCAGGGCCGGATCCGGAGAGCAGGTGGCTTTTCTTGAGCGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGACAGTCCTCAGTCCCTCCATGATGGCTCCCCCGACAGCCGGCCCCCTTCCTGGCCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGACAGTCCTCAGTCCCTCCATGATGGCTCCCCGGACAGCCGGCCCCCTTCCTGGCCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGACGGCCGGCCCAGCTGGTGATCCCAGCCAGTCCCAGCTTTCAGTTGCTGCCCCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGGGACACCGGGGGCCCCGGGAGCAGAGAGCCTCAGAGCAGCCTCCTCCTCCTCCTC
ACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGA
                                                                                               CGGACACGGATGACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGA
                                                                                                             CGGACACGGATGACCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGA 1131
                                                                                                                                                                       TGCTGCACAACCTCAACCTGAACCTGCCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAG
                                                                                                                                                                                                         CGTTTGACGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGC
                                                                                                                                                                                                                                 CGTTTGACGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGC 1011
                                                                                                                                                                                                                                                            rcaeceaceaegacaectreecreecececeaeceaeceaegeaccaereecreaegeaeceaega
                                                                                                                                                                                                                                                                            TCAGCGACGAGGACAGCCTGGCTCGCCGCCAGCGCACCAGGGACCAGTGGCTGAAGCAGA
                                                                                                                                                                                                                                                                                                                    CCACCAGCAGCGAGGTGGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCA
                                                                                                                                                                                                                                                                                                                                  CCACCAGCAGCGAGGTGGCGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCA
                                                                                                                                                                                                                                                                                                                                                                         ACCCCAACTGCTGCTTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCT
                                                                                                                                                                                                                                                                                                                                                                                       ACCCCAACTGCTGCTTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                              AGGAGGTGAGTGAGGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGAGGTGAGTGAGGGGCGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCTGCGTGGCGGCTCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGACGGCCGGCCCAGCTGGTGATCCCAGCCAGTCCCAGCTTTCAGTTGCTGCCCCCAC
                                          TGATGTCCACCCGCCGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACAAGGACC
                                                         TGATGTCCACCCGCCGGGACCTCTACCTGCTCATGCTGATGCTACCAGAGCAACCACAAGGACC
                                                                                                                                                    TGCTGCACAAGCTCAACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                     1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                  891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     291
                                                                          1191
                                                                                                                                                       960
                                                                                                                                                                                   1071
                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                             951
                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                       831
                                                                                                                                                                                                                                                                                                                                                                                                                                  660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       651
                                               1080
                                                                                                   1020
```

```
2101
                                                                                                                                                                                           2152
                                                                                                                                                                                                                                                                                       2092
                                                                                                                                                                                                                                                                                                                                    1921
                                                                                                                                                                                                                                                                                                                                                                                        2032
                                                                                                                                                                                                                                                                                                                                                                                                                                   1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1792
                                                                                                                                           2041
                                                                                                                                                                                                                                          1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1432
                                                                                                                                                                                                                                                              AAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCTCGTCG
                                                                                                                                                                                                                                                                                                                                                             ACAACTTCTCCGTCTCCACACTGTCCCCATCTGGAAAGCCTCGGACGCAAGAGCAAGGCTG
AGA 2274
                                                                AGGAGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGAGGGCGAGCCGGCAGA
                                                                                                                                                                       TGGGAAGCTTCTCCAGGCGCAAGAAGAAGGAAGGCAGCTGAAGAAGGCGGCCAGCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                              CTAAGAGGAAACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTAAGAGGAAACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGACTGCAAGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACG 1911
                                                                                                                                                                                                                                                                                                                                 ACAACTTCTCCGTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGTCCATCGAAAACCACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCCAGTATCTGACTG 1731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACATGTATGCTTGGGTCCTGCAGGCTGGCTGCCGCTGCGGTGGAGGTGGACTGCTGGGATG 1551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTA 1311
                                          AGGAGGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGGGGGGCGACCCGGCAGA
                                                                                                                                      TGGGAAGCTTCTCCAGGCGCAAGAAGAAGGAGGCAGCAAGCTGAAGAAGGCGGCCAGCGTGG
                                                                                                                                                                                                                                  AAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCTCGTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGACTGCAAGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGGAAGAAGCTCCCAGCCAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGGAAGAAGCTCCCAGCCAACA 1851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCC 1791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGTCCATCGAAAAACCACTGCAGTGTCATCCAGCAGAAGAAATGGCCCAGTATCTGACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGACGTCATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCCCGACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCA 1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCCCGACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCA 1611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGG 1491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCAACCCTGAGCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCA 1431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGACGTCATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCC 1671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACATGTATGCTTGGGTCCTGCAGGCTGGCTGCCTGCGTGGAGGTGGACTGCTGGGATG 1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCAACCCTGAGCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCA 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGGGCTGCTGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGGGGCTGCTGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCT 1371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGA 1140
                                          2160
                                                                                       2271
                                                                                                                                      2100
                                                                                                                                                                                                                                  2040
                                                                                                                                                                                                                                                                                  2151
                                                                                                                                                                                                                                                                                                                                 1980
                                                                                                                                                                                                                                                                                                                                                                              2091
                                                                                                                                                                                                                                                                                                                                                                                                                           1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1260
```

δ B

 85 B

뮍

망

성 유

S

밁 Ś 밁 Ś 멍 Ś 멍 Ś 밁 Ś 멍 Ş 밁 Ş 문 Ś 밁 5 밁 Ś 밁 δ 밁

2161

AGA 2163

```
S
                              밁
                                                        Š
                                                                                          В
                                                                                                                     8
                                                                                                                                                       밁
                                                                                                                                                                                  Ş
                                                                                                                                                                                                                 뭐
                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                         á
                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 4
AX392826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 1799;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                              3999
                                                                                          3939
                                                                                                                                                     3879
                                                             2621
                                                                                                                        2561
                                                                                                                                                                                    2501
                                                                                                                                                                                                                  3819
                                                                                                                                                                                                                                                 2441
                                                                                                                                                                                                                                                                              3759
                                                                                                                                                                                                                                                                                                            2381
                                                                                                                                                                                                                                                                                                                                           3699
                                                                                                                                                                                                                                                                                                                                                                        2321
                                                                                                                                                                                                                                                                                                                                                                                                                                   2261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2081 GAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGCCAGCAGACGCAATGG 2140
                                                                                                                                                                                                                                                                                                                                                                                                      3639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3459 GAGCAAGGCTGAAGACGTCGAGTCTGGGGAAGGATGCCGGGGCCAGCAGACGCAATGG 3518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                       CAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGA
                                                                                                                                                                                                                                 CGGGCAGCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCC
                           ACTCAAGCCTGGGTGCATGTGCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCC
                                                           ACTCAAGCCTGGGTGCATGTGCCAGGGGCGTGTTCAACCCCCAACTCGGAGGACCCCCTGCC
                                                                                        GGGGCGGATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGT
                                                                                                           GGGGCGATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCCGCTACGT
                                                                                                                                                   CAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGA
                                                                                                                                                                                                               CAACCAGCAGCAGCTCTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTA
                                                                                                                                                                                                                                                                            CTTCAGCGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTT
                                                                                                                                                                                                                                                                                              CTTCAGCGAGACCAAGGCCCAGCCAGATTCTGCAGCAGAAGCCCGGCGCAGTACCTACGCTT
                                                                                                                                                                                                                                                                                                                                        CAAGTCCGTGGCCACCACGACATAGAGATGGAGGCGCGCCGTCCAGCTGGCAGGTGTCGTC
                                                                                                                                                                                                                                                                                                                                                             CAAGTCCGTGGCCACCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTC
                                                                                                                                                                                                                                                                                                                                                                                                   GACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                  GACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACAC 2320
                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGCCAGCGTGGAGGAGGAGATGAGGGTCAGGACTCCCCGGGAGGCCCAGAGCCGAGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGCCAGCGTGGAGGAGAGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGGGGC 2260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Griffin, J.A., Patterson, C., Gandhi, A.R., Lu, Y., Baughn, M.R., Walia, N.K., Hafalia, A.J., Ding, L., Das, D., Thornton, M. and Lal, P.
Lipid metabolism enzymes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Patent: WO 0216597-A 12 28-FEB-2002; Incyte Genomics, Inc. (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; I
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 12 from Patent W00216597
AX392826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AX392826.1 GI:19700922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AX392826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             മ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Homo sapiens"
/db_xref="taxon:9606"
/noTe="Incyte ID No: 72023748CB1"
2108 c 2172 g 1041 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1. .6551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                34.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 1579;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ďq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lu, Y., Yao, M.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 6551;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tribouley, C.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Euteleostomi; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PAT 23-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
2740
                                                         2680
                                                                                        3998
                                                                                                                                                                                                               3878
                            4058
                                                                                                                       2620
                                                                                                                                                   3938
                                                                                                                                                                                                                                                                           3818
                                                                                                                                                                                                                                                                                                         2440
                                                                                                                                                                                                                                                                                                                                        3758
                                                                                                                                                                                                                                                                                                                                                                     2380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3578
                                                                                                                                                                                                                                                                                                                                                                                                                                                               3638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ۲.
```

```
Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                       Ş
                                                                                                                                       밁
                                                                                                                                                               8
                                                                                                                                                                                              밁
á
                             밁
                                                    Ś
                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4299
                                                                                                                                                                                                                                                                                                                                                                                                                      4659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2801
                                                                                                                                                                                                                                                                                                                                     3401
                                                                                                                                                                                                                                                                                                                                                                 4719
                                                                                                                                                                                                                                                                                                                                                                                            3341
                                                                                                                                                                                                                                                                                                                                                                                                                                                  3281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4599
                                                                                                                                                                                                                                                                                                          4779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4539
                           5078
                                                       3701
                                                                                   5018
                                                                                                             3641
                                                                                                                                       4958
                                                                                                                                                                  3581
                                                                                                                                                                                               4898
                                                                                                                                                                                                                         3521
                                                                                                                                                                                                                                                    4838
                                                                                                                                                                                                                                                                               3461
  3761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAACCCCACCTGGGAGAGCCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCGCGACTCCATGCTGGGGGACCGTGGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGAT 2800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGCCTTCAGCAGGATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGCTTCCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAACCCCACCTGGAAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CATTGGGCTCCCTGTGGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CATTGGGCTCCCTGTGGACTGCAGCAGGGAGCAGACCCGGCGTGGTGGACGACGACGACGGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCGCGACTCCATGCTGGGGAACCGTGGGGAAGATCATCGACCCCTTTGTGGAGGTGGAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                       CACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCGGGCCCGGACCTGCTCCGGA 3340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACCAAGAGCCAGAAGCCGGGCCGGCAGGGGCTTCCCCGGAGCTGGTCCTGGGTACACGGGA 3280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGGCCCCGGCCCGGCCCTCCGTTAGCCAGCGGATCCTGCGGCGCACGGCCAGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCCATCTTCGTGCAIGTGGCIGTCAGTGACAICAGCGGTAAGGICAAGCAGGCTCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGCCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGCTTCCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCT
                                                                                                                                                                                                                                                                                                        GGCAGAGAAGAGCCCTGTGCGAGTGCGG-CCCTGCGTGTCCTGGACGGCCCCGGGCCTGC
                                                                                                                                                                                                                                                                                                                          GCCAGAGAAGAGCCCTGTGCGAGTGCGGCCCCCGCGTGTCCTGGACGGCCCCGGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                AGCCCCAGCCCAGGGGGGCCCGGCAGCCAGCCCCGAGGTAAGGCGCCAGCTGCGGT
                                                                                                                                                                                                                                                                                                                                                                                   AGCCCCAGCCCAGGAGGGGCCCGGCAGCGGCAGCCCCCGAGGTAAGGCGCCAGCTGCGGT 3400
                                                                                                                                                                                                                                                                                                                                                                                                                       CACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCGGGCCCCGGACCTGCTCCGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTCCCCGGAGCTGGTCCTGGGTACACGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĠċĠĠċċċċĠĠċċċĠĠċċċrċċĠrraĠċċaĠċĠĠacċcrĠċĠĠċĠċaċĠĠċċaĠċċċċċċ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | CCAGCAGCCCCGGGCCCGGGCTGACTCACTGGGGGCCCCCTGCTGTTGGCCTGGACCCTCA
                                                                                                                                                                                                                                                                               TGGGATGGCCGCCACATGCATGAAGTGTGTGGTGGGATCCTGCGCCGGCGTGAACACCGG
                                                                                                                                                                                                                        AGGCGGTAGCGGCTCCATGTCCTCGGACTCCAGCAGCCCAGACAGCCCGGGCATCCCCGA
                                           AGGCGGTAGCGGCTCCATGTCCTCGGACTCCAGCAGCCCAGACAGCCCGGGCATCCCCGA 3760
                                                                                                 CGCTATCCCGGGGAGAAGCAGAGAGGCCCCCAAGGGTCCTGGGGGCCTGGAAGGCAGGGTCC 3700
                                                                                                                                         CCAGCAGCCCCGGGCCCGACTCACTGGGGGCCCCCCTGCTGGCCTGGACCCCTCA
                                                                                                                                                                                               researesceccacarecareaastereresceatecarecesecerescereaceces
 CGCTATCCCGGGGAGAAGCAGAGAGGCCCCCCAAGGGTCCTGGGGGCCTGGAGGCAGGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4298
                                                                                                                                                                                                                                                                                                                                          3460
                                                                                                                                                                                                                                                                                                                                                                                                                            4718
                                                                                       5077
                                                                                                                                             5017
                                                                                                                                                                        3640
                                                                                                                                                                                                   4957
                                                                                                                                                                                                                                                         4897
                                                                                                                                                                                                                                                                                    3520
                                                                                                                                                                                                                                                                                                                4837
                                                                                                                                                                                                                                                                                                                                                                      4778
                                   5137
                                                                                                                                                                                                                               3580
```

```
JOURNAL
MEDLINE
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 5
AB007919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                 BASE COUNT
밁
                                                  á
                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                Matches 1496;
                                                                                                                                                                      Query Match
                                                                                                                                         Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3821 GAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGATCAGGAGTAAATCCCCCCATGTTCTCCGC 3880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5138 AAGGTCCCCCCGCTGGCCTGAGGGTGCCTGCAGGCAACCGGGGGGCCCCTGCAGGGAGAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
3528 AGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCCGGCTCGC 3587
                               3082 AGGTCAAGCAGGCTCTGGGGCCTAAAAGGCCCTCTTCCTCCGAGGCCCCAAAGCCCCGGCTCGC 3141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ႙
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CG 3882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGGAGTAAATCCCCCCATGTTCTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Seki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens mRNA for KIAA0450 AB007919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (08-OCT-1997) Osamu Ohara, Kazusa DNA Research Institute,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nakajima,D., Nomura,N. and Ohara,O. Characterization of cDNA clones in size-fractionated cDNA libraries from human brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens male brain cDNA to mRNA, clone_lib:pBluescriptII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AB007919.1 GI:3413861
KIAA0450 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AB007919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Laboratory of DNA Technology; Yana 1532-3, Kisarazu, Chiba
292-0812, Japan (E-mail:cdnainfo@kazusa.or.jp, Tel:+81-438-52-3913,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ohara, O.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98116662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fax:+81-438-52-3914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (sites)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 6946)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Res. 4 (5), 345-349 (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   clone: HG0217
                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                          /codon_start=1
/protaict="KIAA0450 protein"
/protaict="KIAA0450 protein"
/protaict="GraA0450 protein"
/protain_id="BAA32295.1"
/db xref="Gr:3413862"
/db x
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ohira, M., Nagase, T., Ishikawa, K., Miyajima, N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /tissue_type="prain
/clone_Tib="pBluescriptII SK plus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="KIAA0450"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone="HG0217"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /chromosome="1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene="KIAA0450"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .6946
                                                                                                                                                31.2%;
                                                                                                                                                                                                                                                                       2450 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            _type="brain"
                                                                                                                   0
                                                                                                                                                                                                                                                                       2196 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and
                                                                                                                                                   Score 1446;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6946
                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ohara, O.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ģ
                                                                                                                                                                                                                                                                             1237 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein, complete cds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mRNA
                                                                                                                                                                                  B
                                                                                                                                                                                  9;
                                                                                                                          ۲.
                                                                                                                                                                               Length 6946;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRI 13-AUG-1998
                                                                                                                             0
                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SK
                                                                                                                                0,
```

Ś 밁

밁

GCCTTTCCTGGGACTGGGGGCCATGTAC 4281	222 CIGGGCGGCIGGCGACCIGCAIGGCCCCTGAIGCCITIC
GGCTGGGCGCTTCCCCAAACTCACCTC 4 	162 CCGGGACTGTGGCCTGACATGCTGGGCCCCTCCGGG
ACCAGCTGCTCTTGCTGAGGGTCTGGGG 4161 	102 GAGCTGGTTTGACGCCCGACAGGCTGGGAAGAACCAC
TGAGCTIGAGGCCCTGGGACTTGGGTG 4	GCCTGTGGCCCATAGCCCCAGCCCTCCTGTCTGAGC:
TGTCTCCGTGGCACTCTGCTCCCTTGGC 4041	982 TGCTCGTGCTCGTGGCTCTGTATCCGTGGCACTGTCTCTGT
CTGCTGCTTCTGCGTGGACGGTGTCGCCTCGTG 3981	922 CTGGCATGGCTGGGCCTGGGTCACCTG
TIGCCCIGCGTGGTCCTCCCGCACGCCC 3921	862 AATCCCCCATGTTCTCCGCCGGTAAGCCCCTCTTGCC
GCTCAAAAGCTGGAGGAGATCAGGAGTA 3861 	802 GGGC 248 GGGC
CGCTGGCCTGAGGGTGCCTGCAGGCAACCGG 3801	12 ACAGCCCGGGCATCCCCGAAAGGTCCCCC
TCCATGTCCTCGGACTCCAGCAGCCCAG 3741	32 GGGCCTGGAGGCAGGGTCCAGGCGGTAGCGGCTV
AGAAGCAGAGAGGCCCCAAGGGTCCTG 3681 	22 GCTGTGGCCTGGACCCTCACGCTATCCCGGGGAGAA(
3GCCGGGGTGACTCACTGGGGGCCCCCT 3621 	52 GCAGGCAGGCAGCCATTCGCCAGCAGCCCCCGGGC
3GAGCGGCCACCCAGCCCGGGGCCTGCAA 3561 	02 GCGCCGGCGTGAACACCGGGGGCCTGCAGAGGGAC
CACATGCATGAAGTGTGTGGTGGGATCCT 3501	42 TGGACGGCCCCGGGCCTGCTGGGATGGCCGCCACAT
CCTGTGCGAGTGCGGCCCCCGCGTGTCC 3441	82 GTAAGGCGCCAGCTGCGGTGGCAGAGAGAGCCCTGTG
GGAGGGGCCCGGCAGCGGCAGCCCCCAAG 3381 	22 GGCCCGACCTGCTCCGGAAGCCCCAGCCCAGC
CCAAGGGGTGGCAGACGATGTGGTGCCCCCCG 3321	2 TGGTCCTGGGTACACGGGACACAGGCT
GAAGCCGGGCCGCAGGGGCTTCCCGGAGC 3261	02 GGCGCACGGCCAGCGCCCCGACCAAGAGCCAGAAGACCAGAAGA
CCGGCCCTCCGTTAGCCAGCGGATCCTGC 3201	142 TGGACAGTCATGCTGCTGGGCGGCCCCCGGCCCGGCCCG

Ś 밁

밁

В

á 밁 Ś 멍 Ş В Ś Вb Ş 밁 Š

Ş

```
밁
                                                          밁
                                                                                 Ş
                              Ş
                                                                                                               뭥
                                                                                                                                      Ş
                                                                                                                                                                                             Ş
                                                                                                                                                                                                                        Дb
                                                                                                                                                                    망
                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                           В
4848
                                                                      4342
                                                                                                                                                                                                                                                                        4668 CTGGGCGCTGGCACCTGCATGGCCCCTGATGCCTTTCCTGGGACTGGGGGCCACGTAC
                                                                                                                                                                                                                   4728 CATCCCATTCCCACCTCCTAGGGCAGGCTCCAGGGGTCCCTACTGGGAAGTCTGATG
                                                                                                                                                                                                                                          4282 CATCCCATTCCCACCTCCTCTAGGGCAGGCTCCCAGGGGTCCCTACTGGGAAGTCTGATG
                                                                                                                               AGTGCTGCGTGGAGTAGATTCCCTGGGCCCCAGGGCTTCGCTGCTTTTGGGCTGAAGCACC 4461
                                                                                                                                                                                          TGGGCAGGTAGTGCAGCTGCTGGGCGTCTCCTGCGCCCCTGGGACGCCTGGAGCCTGCTG
                                                                                                           AGTGCTGCGTGGAGTAGATTCCCTGGGCCCCAGGGCTTCGCTGTTTGGGCCTGAAGCACC 4907
                                                                                                                                                                TGGGCAGGTAGTGCAGCTGGGGCGTCTCCTGCGCCCCTGGGACGCCTGGAGCCTGCTG
                                                                                                                                                                4847
                                                                                                                                                                                          4401
                                                                                                                                                                                                                     4787
                                                                                                                                                                                                                                             4341
                                                                                                                                                                                                                                                                        4727
```

RESULT 6 AL139246 FOCUS

DEFINITION

AL139246 DNA linear PR: Human DNA sequence from clone RP3-395M20 on chromosome 1p36.11-36.33, complete sequence.

PRI 16-NOV-2001

ACCESSION

VERSION

AL139246.20 GI:16973797

ORGANISM KEYWORDS HTG Homo sapiens

REFERENCE AUTHORS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 154736)

Moore, M.

TITLE JOURNAL

COMMENT

This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one Mi3 subclone; and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em; EMBL; Sw: Submitted (16-NOV-2001) Wellcome Trust Sanger Institute, Hinxton, cambridgeshire, CB10 18A, UK. E-mail enquiries: humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk On Nov 17, 2001 this sequence version replaced gi:15912352. During sequence assembly data is comparted from overlapping clones. Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with the sequences with a small overlap as described above. Direct Submission

chromosome 1, constructed by the Sanger Centre Chromosome 1 Mapping Group. Further information can be found at http://www.sanger.ac.uk/HGP/Chr1 http://www.sanger.ac.uk/Projects/C elegans/wormpep This sequence was generated from part of bacterial clone contigs of human ${\tt SWISSPROT;\ Tr:,\ TREMBL;\ wp:,\ WORMPEP;\ Information\ on\ the\ WORMPEP\ database\ can\ be\ found\ at\ }$

RP3-395M20 is from the library RPCI-3 constructed by the group of Pieter de Jong. For further details see http://www.chori.org/bacpac/home.htm

VECTOR: pCYPAC2

В Ş 뭐 Ş 밁 Ś 밁 Ş

문 δ 밁 ş 밁 Ś 밁 Ş

This sequence is the entire insert of clone RP3-395M20 The true left end of clone RP4-755G5 is at 90075 in this sequence. The true right end of clone RP4-755G5 is at 90078 in this sequence. The true right end of clone RP1-361M21 is at 135438 in this sequence.

```
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                               맑
                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
                                                                                                                               Ś
                                                                                                                                                               밁
                                                                                                                                                                                         S
                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                      밁
                                       밁
                                                                  S
                                                                                                   밁
    ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 1496;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55420
                                                                                                                                                                                                                                                                                        55720
                                                                                                                                                                                                                                                                                                                                                                                                                 55600
                                                                                                                                                                 55840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3082 AGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAAGCCCGGCTCGC 3141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                     55900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3262
                                                                                                                                                                                                                                                                                                                     3502
           3802
                                                                       3742
                                                                                                                                  3682
                                                                                                                                                                                              3622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGACAGTCATGCTGCTGGGCGGCCCCCGGCCCGGCCCTCCGTTAGCCAGCGGATCCTGC 3201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTCCTGGGTACACGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGACAGTCATGCTGGGCGGCCGGCCCGGGCCCTCCGTTAGCCAGCGGATCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTAAGGCGCCAGCTGCGGTGGCAGAGAAGAGCCCTGTGCGAGTGCGGCCCCCGCGTGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                              GTAAGGCGCCAGCTGCGGTGGCAGAGAGAGAGCCCTGTGCGAGTGCGGCCCCCGCGTGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGCCCGGACCTGCTCCGGAAGCCCCAGCCCAGGGGGGGCCCGGCAGCGGCAGCCCCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGCCCGGACCTGCTCCGGAAGCCCCAGGCCCAGGAGGGGCCCGGCAGCGGCAGCCCCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTCCTGGGTACACGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCGCACGGCCAGCCCCGACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTCCCCGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCGCACGGCCAGCGCCCCGACCAAGAGCCAGAAGCCGGGGCCGCAGGGGCTTCCCGGAGC 3261
                                                                                                                                                                                                                                                                                                          GCGCCGGCGTGAACACCGGGGGCCTGCAGAGGGAGCGGCCACCCAGCCCGGGGCCTGCAA
                                                                                                                                                              GCTGTGGCCTGGACCCTCACGCTATCCCCGGGGAGAAGCAGAGAGGCCCCCCAAGGGTCCTG
                                                                                                                                                                                                                            GCAGGCAGCCATTCGCCAGCAGCCCCGGGCCCGGGCTGACTCACTGGGGGCCCCCT
GGGCCCTGCAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGATCAGGAGTA 3861
                                                            ACAGCCCGGGCATCCCCGAAAGGTCCCCCCGCTGGCCTGAGGGTGCCTGCAGGCAACCGG 3801
                                                                                                                                                                                             GCTGTGGCCTGGACCCTCACGCTATCCCGGGGAGAAGCAGAGAGGCCCCCCAAGGGTCCTG
                                                                                                                                                                                                                                                         GCAGGCAGGCAGTTCGCCAGCAGCCCGGGCCCGGGCTGACTCACTGGGGGCCCCCT
                                                                                                                                                                                                                                                                                        GCGCCGGCGTGAACACCCGGGGGCCTGCAGAGGGAGCGGCCACCCAGCCCGGGGCCTGCAA
                                                                                                                                                                                                                                                                                                                                                      ACAGCCCGGGCATCCCCGAAAGGTCCCCCCCCGCTGGCCTGAGGGTGCCTGCAGGCAACCGG
                                                                                                   GGGCCTGGAGGCAGGGTAGCGGCTCCATGTCCTCGGACTCCAGCAGCAGCCCAG
                                                                                                                                GGGCCTGGAGGCAGGGTCCAGGCGGTAGCGGCTCCATGTCCTCGGACTCCAGCAGCCCAG 3741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           рJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="Sequence from overlapping clone
Rp4-75505 (AL589746). Assembly confirmed
digest."
a 47325 C 48771 g 29593 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="Tandem repeat. Forced join. Gap size estimated to be approximately 800bps by restriction digest data." 125344. .125387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone_lib="RPCI-3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /map="p36.11-36.33"
/clone="RP3-395M20"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'chromosome="1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .154736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 1446;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 154736;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           γď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           restriction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3321
                                                                                                                                                                                                   3681
                                                                                                                                                                                                                                                                3621
                                                                                                                                                                                                                                                                                                                            3561
                                                                                                                                                                                                                                                                                                                                                                                          3501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55479
                                                                                                                                                                                                                                                                                               55779
                                                                                                                                                                                                                                                                                                                                                             55719
                                                                                                                                                                                                                                                                                                                                                                                                                         55659
                                                                                                          55959
                                                                                                                                                                      55899
                                                                                                                                                                                                                                  55839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
```

```
ر
ا
                                                                                                                                                                                                                                                                                                                                                                                                                         멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
     RESULT 7
BC019679
                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                     밁
                                                                                S
                                                                                                           밁
                                                                                                                                  S
                                                                                                                                                              밁
                                                                                                                                                                                      S
                                                                                                                                                                                                                  밁
                                                         밁
                                                                                                                                                                                                                                                                                                                                                                         56380
                                                                                                                                                                                                                                                                                                                                                                                                                            56320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               56260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 56200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    56140
                                                                                                                                                                                                                                                                                                                     56440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3862
                                                         56740
                                                                                                             56680
                                                                                                                                                              56620
                                                                                                                                                                                                                   56560
                                                                                                                                                                                                                                                                    56500
                                                                                                                                                                                                                                                                                                                                                                                                                                                    4102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4042
                                                                                   4522
                                                                                                                                     4462
                                                                                                                                                                                                                                          4342
                                                                                                                                                                                                                                                                                                                                               4222
                                                                                                                                                                                                                                                                                                                                                                                                  4162
                                                                                                                                                                                         4402
                                                                                                                                                                                                                                                                                              4282
                                                                                                                                                                                                                                                                                                                                                                                                                          GAGCTGGTTTGAGGCCCGACAGGCTGGGAAGAACCAGCTGCTCTTGCTGAGGGTCTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGCTCGTGCTCGTGGCTCTGTATCCGTGGCACTGTCTCCGTGGCACTCTGCCTCCCTTGGC 4041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGGCATGGCTGGGCTGGGTCACCTGCTGCTTCTGCGTGGACGGTGTCGCCTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AATCCCCCATGTTCTCCGCCGGTAAGCCCCTCTTGCCCTGCGTGGTCCTCCCGCACGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TIGCCTGTGGCCCATAGCCCCAGCCCTCCTGTCTGAGGCTTGAGGCCCTGGGACTTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                           CCGGGACTGTGGCCTGACATGCTGGGCCCCTCCGGCTGGGCGCTTCCCCAAACTCACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGCTGGTTTGAGGCCCGACAGGCTGGGAAGAACCAGCTGCTCTTGCTGAGGGTCTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTGCCTGTGGCCCATAGCCCCAGCCCTCCTGTCTGAGCCTTGAGGCCCCTGGGACTTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCTCGTGCTCGTGTATCCGTGGCACTGTCTCCGTGGCACTCTGCTCCCTTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGGCATGGCTGGGCCTGGTCACCTGCTGCTTCTGCGTGGACGGTGTCGCCTCGTG
                                                       caccerdecececadacececerdaceaagerrrectrretecececeaececaecec
                                                                      CATCCCATTCCCACCTCCCTCTAGGGCAGGCTCCAGGGGTCCCTACTGGGAAGTCTGATG
                                                                                                                                                                                                                                                                                                                                                                      CCGGGACTGTGGCCTGACATGCTGGGCCCCTCCGGCTGGGCGCTTCCCCAAACTCACCTC
                                                                                                           AGTGCTGCGTGGAGTAGATTCCCTGGGCCCCAGGGCTTCGCTGCTTTGGGCTGAAGCACC
                                                                                                                                                                           AGTGCTGCGTGGAGTAGATTCCCTGGGCCCCAGGGCTTCGCTGCTTTGGGCTGAAGCACC
                                                                                                                                                                                                                  TGGGCAGGTAGTGCAGCTGCTGGGCGTCTCCTGCGCCCCTGGGACGCCTGGAGCCTGCTG
                                                                                                                                                                                                                                   TGGGCAGGTAGTGCAGCTGCTGGGGCGTCTCCTGCGCCCCTGGGACGCCTGGAGCCTGCTG
                                                                                                                                                                                                                                                                                                                       CTGGGCCGCCTGCATGGCCCCTGATGCCTTTCCTGGGACTGGGGCCACGTAC
                                                                                                                                                                                                                                                                                                                                              стееесеествесенсствентеессстватесстттсствеенствееессытетыс
                                                                56796
22-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3981
                                                                                                                                                                                                                                                                                                                                                                                                                                                          4161
                                                                                                                                                                                               4461
                                                                                                                                                                                                                                                                                                  4341
                                                                                                                                                                                                                                                                                                                                                                                                        4221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        56199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           56139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3921
                                                                                                                                                                                                                                                                                                                                                      4281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     56319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4101
                                                                                                                                                                     56679
                                                                                                                                                                                                                                                  4401
                                                                                                                                                                                                                                                                                                                            56499
                                                                                                                                                                                                                                                                                                                                                                                56439
                                                                                                                                                                                                                                                                                                                                                                                                                                 56379
                                                                                                                                                                                                                        56619
                                                                                                                                                                                                                                                                          56559
```

ACCESSION REFERENCE AUTHORS VERSION LOCUS SOURCE ORGANISM KEYWORDS TITLE

밁

56020

GGGCCCTGCAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGATCAGGAGTA

56079

cDNA Library Preparation: Life

Technologies,

COMMENT REMARK JOURNAL Strausberg, R.
Strausberg, R.
Strausberg, R.
Direct Submission
Direct Submission
Submitted (19-DEC-2001) National Institutes of Health, Mammalian Submitted (19-DEC-2001) Cancer Genomics Office, National Cancer Gene Collection (MGC), Cancer Genomics Office, National Cancer Gen Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 2480) BC019679 2480 bp Homo sapiens, clone IMAGE:4932488, Email: cgapbs-r@mail.nih.gov Tissue Procurement: David N. NIH-MGC Project URL: http://mgc.nci.nih.Contact: MGC help desk Homo sapiens Homo sapiens. BC019679.1 GI:18044627 Louis, mRNA, mRNA 3 partial cds linear

```
BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                      2821
                                                                                                                                                                                      2761
                                                                                                                                                                                                                                                                                                                                                                                                                        2641
                                                                                                                                                                                                                                                                                                    2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2521 ACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGGGGATGCTGCAGCTGA 2580
                                                                                                                                241
                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
GCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCCACCTGGGAGGAGA
                                                   GCAGCAGGAGCAGACCCGCGTGGTGGACGACGACGAGGTTCAACCCCCACCTGGGAGGAGA 2880
                                                                                                                                                                    ACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACT 2820
                                                                                                                                                                                                                                                                                                                                                                                                      GCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGC 2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTGCATGT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACT
                                                                                                                                                                                                                                                                                        TGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGACTCCATGCTGGGGG 2760
                                                                                                                                                                                                                                                                                                                                                     GCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGC 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGGCGGATGCTGCAGCTGA 60
                                                                                                                                                                                                                                    TGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACTCCATGCTGGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          861;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Series: IRAK Plate: 29 Row: n Column: 13
This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA gi: 7662133.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Web site: http://www.hgsc.bcm.tmc.edu/cdna/Contact: amg@bcm.tmc.edu
Guntact: amg@bcm.tmc.edu
Guntaratne, P.H., Garcia, A.M., Lu, X., Hulyk, S.W., Hale, S.M., Yoon, V.S., Kowis, C.R., Lawrence, S., Martin, R.G., Muzny, D.M. Richards, S., Gibbs, R.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Clone distribution: MGC clone distribution information can be found through the I_M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Baylor College of Medicine Human Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Center code: BCM-HGSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequencing Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /product="Unknown (protein for IMAGE:4932488)"
/protein_id="AAH19679.1"
/db_xref="GI:18044628"
/translation="AGCONVALNYQSEGRMLQLINRAKFSANGGCGYVLKPGCMCOGVF
NRNSEDPLPGQLKKQLVLRIISGQQLFKPRDSMLGDRGEIIDFFVEVEIIGLFVDCSR
EQTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGSDFIGQRTLAFSSMMP
EYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLKGFKRGSLDSHAAGRPPAR
PSYSQRILRRIASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVVPPGPGPAFEAFA
DEGFGSGSFRDTRFLSTQRFLFFLCSLETIAEEFAFGFGFPPPAAVPTSSSQGRPPYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGQRPPIPDELOPRSLAPRMAGLPFRPPWGCLSLVGVQDCPVAAKSKSLGDLTADDFA
PSFEGGSRRLSHSLGLFGGTRKSGPGVRRDTLTEQLRWLTVFQQAGDITSPTSLGPA
GEGVAGGPGFVRRSSSRSHSRVRALASRAKPAQDERQQRLQGLGRQGPPEEERGTPEGA
CSVGHEGSVDAPAPSKGALGPASAAAENLVLLRL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGPGANVASPLEDTEEPRDSR PRPCNGEGAGGAYERAPGSQTDGRSQPRTLGHLPVIR
RVKSEGQVPTEPLGGWRPLAAPFPAPAVYSDATGSDPLWQRLEPCGHRDSVSSSSSMS
SSDTVIDLSLPSLGLGRSRENLAGAHMGRLPPRPHSASAARPDLPPVTKSKSNPNLRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="Vector: pCMV-SPORT6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     codon_start=3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /lab
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tissue_type="Brain, anaplastic oligodendroglioma with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  clone="IMAGE:4932488"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18.6%; Score 861; D
100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       host = "DH10B'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             _lib="NCI_CGAP_Brn67"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                798 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 2480;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Muzny, D.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                    240
   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

밁 Ş В Ś 밁 Ş

TREMBL; Wp:,

WORMPEP; Information on the WORMPEP

В

Ş В S ORIGIN

밁 Ś

```
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AL513477/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Focus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3061 CTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAAAAGGCCTCTTCCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2881 CCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGGCTGGTCCGCCTTCCTCGTCTGGGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGGCAGCGGCAGCCCCCGAG 861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGGCAGCGGCAGCCCCCGAG 3381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGACGATGTGGTGCCCCCGGGGCCCGGACCTGCTCCGGAAGCCCCAGCCCAGGAGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGACGATGTGGTGCCCCCCGGGCCCGGACCTGCTCCGGAAGCCCCAGGCCCAGGAGGGGC 3360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCGCAGGGGCTTCCCCGGAGCTGGTCCTGGGTACACGGGACACAGGCTCCAAGGGGGGTGG 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGTTAGCCAGCGGATCCTGCGGCGCACGGCCAGCGCCCCGACCAAGAGCCAGAAGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTTAGCCAGCGGATCCTGCGGCGCCACGGCCAGGCCCCGACCAAGAGCCAGAAGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCCCGGCCCGGCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGGCCCAAAGCCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCCCGGCCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAAAAGGCCTCTTCCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGGCTACAGACACGTGTACCTAGAAGGGGATGGAAGAGGCCTCCATCTTCGTGCATGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCATGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGTCTGGGACC
This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone, and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em; EMBL; Sw; our contractors.
                                                                                                                                                                                                                                     Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.
                                                                                                                                                                                                                                                                                                                                                           humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk On Apr 29, 2002 this sequence version replaced gi:18476648. During sequence assembly data is compared from overlapping clones.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (26-APR-2002) Wellcome Trust Sanger Institute, Hinxton
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cambridgeshire, CB10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human DNA sequence from clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AL513477.21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AL513477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 106323)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GI:20338803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                             1SA, UK. E-mail enquiries:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  106323 bp DNA linear PF
om clone RP4-740C4 on chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRI 26-APR-2002
me 1, complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2940
                                given
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 9
HS776M4T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16478 gereregarecerrececedes acestrales de la capacidade de la composición del composición de la compo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16358 GATCCCAGCCAGTCCCAGCTTTCAGTTGCTGCCCCCACCGACAGTCCTCAGTCCCTCCAT 16299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             314
COUNT
                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       254 GETETETEATECECTECTECCCAGECTACACCCCGACAAGGGACACCGGGGGCCCCTGGG 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            434 GATGGCTCCCCCGACAGCCGGCCCCTTCCTGGCCCAGCTCTTCCGGCCTGAGGACCCCAGG 493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Match 5.2%;
Local Similarity 99.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATCCCAGCCAGTCCCAGCTTTCAGTTGCTGCCCCCACCGACAGTCCTCAGTCCCTCCAT 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCGGATCCGGAGAGCAGGTGGCTTTTCTTGAGCGCCAACATTCTGCCCGTGG 16186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCGGATCCGGAGAGCAGGTGGCTTTTCTTGAGCGCCAACATTCTGCCCGTGG 546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATGGCTCCCCCGACAGCCGGCCCCCTTCCTGGCCCAGCTCTTCCGGCCTGAGGACCCAGG 16239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    292;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   database can be found at http://www.sanger.ac.uk/Projects/C_elegans/wormpep This sequence was generated from part of bacterial clone contigs of human chromosome 1, constructed by the Sanger Centre Chromosome 1 Mapping Group. Further information can be found at http://www.sanger.ac.uk/HGP/Chr1
RP4-740C4 is from the library RPCI-4 constructed by the group of Pieter de Jong. For further details see
                                                                                                                                                                                                                                                                     Gregory, S., Atkinson, A.L., Evans, R.S., Gilson, C.J., Jones, C.A., McDonald, L., Phillips, K.J., Huckle, E., Taylor, R. and Hunt, S.E. Direct Submission

Submitted (18-SEP-2000) E-mail contact: humquery@sanger.ac.uk

Marker stdJ776M4T7 (Primer A: TAATCAGAGACAGGCAGGGG; Primer B:

TGATGTCCTGGCACTCTC; amplimer size: 138 bp) is from sequence

generated from the T7 end of PAC 776M4 is part of the

bacterial clone contigs constructed by the Chromosome 1 Mapping

Group.(http://www.sanger.ac.uk/HGP/Chr1/).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             H.sapiens STS from genomic clone 776M4, sequence tagged
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     http://www.chori.org/bacpac/home.htm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 245)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HS776M4T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           numan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AL442031.1 GI:10241471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  മ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              pCYPAC2.
Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone lib="RPCI-4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone="RP4-740C4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /chromosome="1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31304 c 29856 g 22214 t
                                                                                                                                                                                                         1. .245
                                                                             /chromosome="1"
                                                                                                                   organism="Homo sapiens"
/db_xref="taxon:9606"
    /clone="776M4"
58 c
                                                                                                                                                                                                                                  ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .106323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 242; DB 9;
Pred. No. 2e-122;
        68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            245 bp
        48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 9; Length 106323;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STS 18-SEP-2000
gged site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

Ś 밁 Ś 밁 Ś

á 밁 S В

밁

FOCUS

BASE

SOURCE

nouse mouse.

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MMU296951/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 10
                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                             밁
                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
KEYWORDS
                VERSION
                                 ACCESSION
                                                                   DEFINITION
                                                                                                       AL831788
                                                                                                                      RESULT 11
                                                                                        Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                         Best
                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1237 AGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCC 1296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1297 CAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGG 1333
                                                                                                                                                                                                                                                                                1422 CACTACTTCATCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAG 1481
                                                                                                                                                                                                              1482 TC 1483
                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    142 AGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCC 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   202
                                                                                                                                                                                                                                                364 CACTACTTCATCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAG 305
                                                                                                                                                                             304 TC 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGG 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (04-SEP-2000) Tolstonog G.V., Max-Planck-Institut Zellbiologie, Rosenhof, Ladenburg/Heidelberg 68526, Germany Location/Qualifiers
                                           Mus musculus chromosome 4 clone RP23-173K14, *** S PROGRESS ***, 24 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Isolation of SDS-Stable Complexes of the Intermediate Filament Protein Vimentin with Repetitive, Mobile, Nuclear Matrix Attachment Region, and Mitochondrial DNA Sequence Elements from Cultured Mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tolstonog, G.V., Mothes, E., Shoeman, R.L. and Traub, P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vimentin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AJ296951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus SDS-stable vimentin-bound
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tolstonog, G.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      АJ296951.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MMU296951
               AL831788.2 GI:21748357
HTG; HTGS_PHASE1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1747605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 976)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cell Biol. 20 (9),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human Fibroblasts
                                                                                                                                                                                                                                                                                                                                                                                                                204 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                              /function="sequence bound by vimentin in living cells" 274 c 283 g 215 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Mus musculus"
/db xref="taxon:10090"
/cell_type="immortalized mouse embryo fibroblasts"
/clone_lib="MEF40VIM8"
                                                                                                                                                                                                                                                                                                                                                                                                                                                  /bound_moiety="vimentin"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GI:10046983
                                                                                                                                                                                                                                                                                                                                         100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2.1%; Score 97; DB 11; Length 245; 100.0%; Pred. No. 1.9e-41;
                                                                                                                                                                                                                                                                                                                                         1.3%; Score 62; DB 10; 100.0%; Pred. No. 5.5e-22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          531-554 (2001)
                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear ROD 15-NOV-2001 DNA fragment MEF40VIM8.
                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                               Indels
                                                                         SEQUENCING
                                                                                            HTG 13-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ٥,
                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

```
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                        * 69123 contig of 1296 bp in length

* 69123 69222 gap of 100 bp

* 69223 86407: contig of 17185 bp in length

* 86408 86507: gap of 100 bp

* 86508 89182: contig of 2675 bp in length

* 89183 89282: gap of 100 bp

* 89283 gap of 100 bp

94679 94678: gap of 100 bp

94679 947023: contig of 5296 bp in length

97024 97023: contig of 2345 bp in length

97024 97023: gap of 100 bp

97024 97023: gap of 100 bp

97024 97023: gap of 100 bp

97024 97023: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Insert size: 188194; sum-of-contigs
Insert size: 206960; 2.0% error; agarose-fp
Quality coverage: 4.43x in Q20 bases; sum-of-contigs Quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chemistry: Dye-terminator; 100% of reads consensus quality: 185080 bases at least Q40 Consensus quality: 18587 bases at least Q20 Consensus quality: 187481 bases at least Q20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (12-JUL-2002) Wellcome Trust Sanger Institute, Hinxton, Cambridgeshire, CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk On Jul 14, 2002 this sequence version replaced gi:21727735.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            coverage: 4.41x in Q20 bases; agarose-fp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Center project name: bM173K14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: humquery@sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Assembly program: XGAP4; version 4.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Web site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus (bases 1 to 190494)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Center code:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Center: Wellcome Trust Sanger Institute
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NOTE: This is a 'working draft' sequence. It currently consists of 24 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      be preserved.
                                                                                                                                                                                                                97024 97123: gi
97124 103688
103689 103788:
                                                                  106764 106863; gap of 100 bp 106864 111793; contig of 4930 bp in length 111794 111893; gap of 100 bp 111894 114584; contig of 2691 bp in length 114585 114684; gap of 100 bp 114585 114684; gap of 100 bp
                                                                                                                                                                     103789 10676;
106764 106863;
                            120902 121001:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           33647 38589: contig of 4943 bp in length
38590 3869: gap of 100 bp
38690 47471: contig of 8782 bp in length
47472 47571: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 5587: contig of 5587 bp in length
5588 5687: gap of 100 bp
5688 13115: contig of 7428 bp in length
13116 13215: gap of 100 bp
13216 23347: contig of 10132 bp in length
23348 23447: gap of 100 bp
23448 23447: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29152: contig of 5705 bp in length 29252: gap of 100 bp 3 29252: gap of 100 bp 3 3546: contig of 4294 bp in length 33646: gap of 100 bp 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                http://www.sanger.ac.uk
     145630:
                      120901: contig of 6217 b
                                                                                                                                                                                                 .06763:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Summary Statistics
                                                                                                                                                                                                                   gap of
                                                                                                                                                                  gap of 100 bp
contig of 2975 bp
can of 100 bp
contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  p of 100 bp
contig of 9155 bp in length
24629 bp in length
                                             bp in length
                                                                                                                                                                                         bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                    misc_feature
                                                                                         misc_feature
                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   145631 145730: gap of 145731 148965: cont
                                                                                                                                                                                                                                                      ragment_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ragment_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      clone_
```

```
179781 179880: gap of 100 bp in length 17981 187153; contig of 7273 bp in length 187154 187253; gap of 100 bp 187154 187254 190494; contig of 3241 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          161172 161271: gap of 161272 179780: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               148966 149065: gap of 100 bp 1149066 161171: contig of 12106 bp in length
                                                                                   /note="assembly_fragment:00848
fragment_chain:3"
11894. 114584
/note="assembly_fragment:00454
fragment_chain:4"
114685. 120901
                  /note="assembly_fragment:00214
fragment_chain:4"
121002. .145630
note="assembly_fragment:00028
                                                                                                                                                                                                                                           note="assembly_fragment:00679
ragment_chain:3"
                                                                                                                                                                                                                                                                                         /note="assembly_fragment:01451
[ragment_chain:3"
[03789. _106763
                                                                                                                                                                                                                                                                                                                                                                             'note="assembly_fragment:01728
Eragment_chain:3"
                                                                                                                                                                                                                                                                                                                                                                                                                                             note="assembly_fragment:00208
ragment_chain:2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="assembly_fragment:00090
ragment_chain:2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note="assembly_fragment:01061
ragment_chain:2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               note="assembly_fragment:01702
ragment_chain:2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note="assembly_fragment:01690
ragment_chain:2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 note="assembly_fragment:01380
ragment_chain:2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="assembly_fragment:00429
fragment_chain:1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'note="assembly_fragment:00345
Eragment_chain:1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13216. .23347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="assembly_fragment:00844
fragment_chain:1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="assembly_fragment:00888
fragment_chain:1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="taxon:10090"
/chromosome="4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               note="assembly_fragment:01527
ragment_chain:1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note="assembly_fragment:00299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        clone="RP23-173K14"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .94578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .86407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   lib="RPCI-23"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ap of 100 bp
contig of 18509 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ap of 100 bp
contig of 3235 bp in length
```

```
Db 143233 CACTACTTCATCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAG 143292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db 143293 TC 143294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC120432/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1422 CACTACTTCATCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAG 1481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1482 TC 1483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
         RS Birren, B., Linton, L., Nusbaum, C., Lander, E., Ali, A., Allen, N., Birren, B., Linton, L., Nusbaum, C., Campopiano, A., Chang, J., Boukhgalter, B., Brown, A., Camagelo, M., Collins, S., Collymore, A., Chang, J., Chazaro, B., Choepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Cook, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Cook, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Cook, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Cook, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Cook, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Canders, S., Godd, S., Goyette, M., Gade, D., Galagan, J., Gardyna, S., Kamat, A., Karatas, A., Kells, C., LaRocque, K., Lamdarates, R., Landers, T., Lehoczky, J., Levine, R., Lindblad-Toh, K., Liu, G., Landers, T., Lehoczky, J., Levine, R., Lindblad-Toh, K., Liu, G., MacClean, C., Macdonald, P., Major, J., Marquis, N., Matthews, C., MacCarthy, M., McEwan, P., McKernan, K., Meldrim, J., Meneus, L., MicCarthy, M., McEwan, P., McKernan, K., Meldrim, J., Meneus, L., MicCarthy, M., McBou, T., O'Connor, T., O'Donnell, P., O'Neil, D., Oliver, J., Peterson, K., Punnkhang, P., Pierre, N., Pollara, V., Raymond, C., Retta, R., Rieback, M., Riley, R., Ries, C., Rogov, P., Roman, J., Rosetti, M., Roy, A., Santos, R., Schauer, S., Schupback, R., Stanuss, N., Subramanian, A., Talamas, J., Testaye, S., Theodore, J., Viel, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Ye, W. J., Young, G., Zainoun, J., Zambek, L., Zimmer, A. and Zody, M.

Birect Submission

Al Submitted (06-MAY-2002) Whitehead Institute/MIT Center for Genome Submitted (16-MAY-2002) Whitehead Institute/MIT Center for Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              67142 bp DNA linear HTG 06-
Mus musculus clone RP24-553K14, LOW-PASS SEQUENCE SAMPLING.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 (bases 1 to 67142)
Birren, B., Linton, L., Nusbaum, C. and Lander, E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus, clone RP24-553K14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HTG; HTGS PHASEO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AC120432.1 GI:20455766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AC120432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="assembly_fragment:00228
fragment_chain:6"
45591 a 48780 c 48760 g 45059 t 2304 others
Research, 320 Charles Street,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to 67142)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="assembly fragment:00465
fragment_chain:5"
149066. .161171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="assembly_fragment:00475
fragment_chain:6"
187254. .190494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="assembly_fragment:01235
fragment_chain:5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    fragment_chain:4"
145731. .148965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1.3%; but 100.0%; Pred. No. 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .179780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 62; DB 2; L
Pred. No. 3.7e-22;
   Cambridge, MA 02141,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 190494;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HTG 06-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
```

```
All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NOTE: This record contains 82 individual sequencing reads that have not been assembled into contigs. Runs of N are used to separate the reads and the order in which they appear is completely arbitrary. Low-pass sequence sampling is useful for identifying clones that may be gene-rich and allows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             overlap relationships among clones to be deduced. However, it should not be assumed that this clone will be sequenced to completion. In the event that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the record
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10549 11268: contig of 720 bp in length 11269 11368: gap of 100 bp 11369 12087: contig of 719 bp in length 1208 12187: gap of 100 bp 12088 12187: gap of 100 bp 12932 13031: gap of 100 bp 13032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Center project name: L2 Center clone name: 553_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: sequence submissions@genome.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Center code: WIBR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Center: Whitehead Institute/ MIT Center for Genome Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Web site: http://www-seq.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2456
3136 3235: gap of
3236 3928: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5533 5632: (
5633 63
6373 6472: (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8010 8109: N
                                                                                                                                                                                                                                                                                                       16349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             932 9631: contig of 700 bp in length 9632 9731: gap of 100 bp 100
18752 1947\tilde{7}: contig of 726 \tilde{b}p in length 19478 19577; gap of 100 bp 19578 20282; contig of 705 bp in length 20283 20382; gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                           14577 14676: gap of 100 bp 14677 15410: contig of 734 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6473
                                                                                                                                                                                                              17837 17936:
                                                                                                                                                                                                                                                                                                                                                                                                                  15411 15510:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13781 13880:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7213 7312: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2356 2455: gap of 
2456 3135: co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1525 1624: gap of 100 bp
1625 2355: contig of 731 bp in length
                                                                                                          18652 18751: gap of
18752 19477: cont
                                                                                                                                                                                                                                                                                                                                              16249 16348:
                                                                                                                                                                                                                                                                              7054 17153:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                692 791: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6372: contig of 740 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---- Genome Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4028: gap of
4730: cor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100 bp
100 bp in length
8109: contig of 697 bp in length
8109: gap of 100 bp
8831: contig of 722 bp in length
8931: gap of 100 bp
9631: contig of 722 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4830: gap of
                                                                                                                                                                                  17053: contig of 705 bp i
17053: contig of 705 bp i
17153: gap of 100 bp
17836: contig of 683 bp ii
7936: gap of 100 km
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 is updated, the accession number will
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              32: gap of
6372: con
                                                                                                                                                                                                                                                                                                                                                                       16248: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       031: gap of 100 bp
13780: contig of 749 bp in length
1800: gap of 100 bp
14576: contig of 696 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1524: contig of 733 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5532:
                                                                                                                                                                       36: gap of 100 bp
18651: contig of 715 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                691; contig of 691 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of 100 bp
contig of 740 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of 100 bp
contig of 680 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     contig of 702 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of 100 bp
contig of 702 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contig of 693 bp in length
                                                                                                                                                                                                                                                                                                                                                                           p of 100 bp contig of 738 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100 pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            dq 001
                                                                                                                                                  100 pp
                                                                                                                                                                                                                                                                                                                                                                                     bp in length
                                                                                                                                                                                  bp in length
                                                                                                                                                                                                                                                                                                              bp in length
                                                                                                                                                                                                                                              in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                         in length
```

```
32640 32733: gap of 100 bp 33885 33844: conti g of 745 bp in length 34823 34422: gap of 100 bp 3423 34422: gap of 100 bp 3423 34422: gap of 100 bp 3423 35512 conti g of 698 bp in length 35121 35212: gap of 100 bp 35121 35220: gap of 100 bp 36821 37539: conti g of 772 bp in length 36821 37539: conti g of 772 bp in length 37640 38360: conti g of 771 bp in length 38361 39460: gap of 100 bp 39299 40038: conti g of 772 bp in length 39193 3298: gap of 100 bp 39299 40038: conti g of 774 bp in length 40039 40138: gap of 100 bp 40039 40138: gap of 100 bp 40039 40138: gap of 100 bp 4083 40822: conti g of 744 bp in length 4083 4082: gap of 100 bp 4083 40822: conti g of 744 bp in length 4083 4082: gap of 100 bp 4083 4082: conti g of 744 bp in length 4083 4082: gap of 100 bp 4083 4082: conti g of 774 bp in length 43326 43425: gap of 100 bp 4234 42313: conti g of 776 bp in length 43326 43425: gap of 100 bp 4234 44233: gap of 100 bp 4234 44233: gap of 100 bp 43326 43425: gap of 100 bp 43426 43425: gap of 100 bp 4355 45054: gap of 100 bp 4755 45054: gap of 100 bp 4755 45054: gap of 100 bp 4755 48396: gap of 100 bp 4755 48396: gap of 100 bp 4755 48296: conti g of 772 bp in length 48297 48396: gap of 100 bp in length 48296: conti g of 772 bp in length 48297 48396: gap of 100 bp in length 48296: conti g of 732 bp in length 48296: conti g of 732 bp in length 48297 48396: gap of 100 bp in length 48296: conti g of 732 bp in length 48297 48396: gap of 100 bp 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30177 30276: gap of 100 bp
30277 31015: contig of 739 bp in length
31016 31115: gap of 100 bp
31116 31844: contig of 729 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31845 31944:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28510 28609: gap of 100 bp
28610 29341: contig of 732 bp in length
29342 29441: gap of 100 bp
29442 30176: contig of 735 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22075 22783:
22784 22883: ga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20383 21125: contig of 743 bp in length
21126 21225: gap of 100 bp
21226 21274: contig of 749 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27675 27774: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26850 26949:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23585 23684:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25221 25320:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24410 24509:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26030 26129:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22074: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26029: CO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 32639: contig of 695 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          949: gap of 100 bp in length 27674: contig of 725 bp in length 774: gap of 100 bp 28509: contig of 735 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100 bp 26849: contig of 720 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100 k
24409: contig of 725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100 bp 23584: contig of 701 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100 bp
783: contig of 709 bp
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of 100 bp
contig of 709 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           p of 100 bp
contig of 711 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bp in length
```

```
AC023583
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
TITLE
JOURNAL
                                            RESULT 14
                                                                                                      B
                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                               BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSA338904/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
MEDLINE
                                                                                                                                                                               Matches
                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20050 GTGTACCTAGAAGGGATGGAAGAGGCCTC 20022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3015 GTGTACCTAGAAGGGATGGAAGAGGCCTC 3043
                                                                                                                        519 TTCTTGAGCGCCAACATTCTGCCCGTGG 546
                                                                                                      621
                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                TTCTTGAGCGCCAACATTCTGCCCGTGG 594
                                                                                                                                                                                 28;
      AC023583
                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
Submitted (16-MAY-2001) Microbiology and Tumorbiology Centre,
Submitted (16-MAY-2001) Microbiology and Tumorbiology Centre,
Sarolinska Institute, Theorells vag, 3, Box 280, Stockholm 171 77,
                                                                                                                                                                                                                                                                                                                                                                                                Sweden
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 (bases 1 to 621)
Zabarovsky, E.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (Dases 1 to 621)

Kutsenko,A.S., Gizatullin,R.Z., Al-Amin,A.N., Wang,F., Kvasha,S.M., Podowski,R.M., Matushkin,Y.G., Gyanchandani,A., Muravenko,O.V., Leviteky, W.G., Kolchanov,N.A., Protopopov,A.I., Karavenko,L.I., Kisselev,L.L., Wasserman,W., Wahlestedt,C. and Zabarovsky,E.R. NotI flanking sequences: a tool for gene discovery and verification of the himing sequences: a tool for gene discovery and verification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NotI flanking sequent of the human genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nucleic Acids Res. 30 (14), 3163-3170 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens genomic sequence surrounding NotI site,
                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AJ338904.1 GI:15883322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AJ338904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSA338904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2136098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                             152
                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        53242 53341: gap of 100 bp 53342 543030: contig of 689 bp in length 54031 54130: gap of 100 bp 54131 54832: contig of 702 bp in length 54833 54932: gap of 100 bp 54833 55635: contig of 703 bp in length 54933 55635: contig of 703 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    50769 50868: gap of 100 bp
51893 51893: contig of 725 bp in length
51594 51693: gap of 728 bp in length
51694 52421: contig of 728 bp in length
52422 52521: gap of 100 bp
52522 53241: contig of 720 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55636 55735: gap of 100 bp 55736 56426: contig of 691 br
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     56427 56526: gap of
                                                                                                                                                                                                                                                                           /clone="NL1-VF5R"
217 c 172
                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                  organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                db_xref="taxon:9606"
                                                                                                                                                                     0.0°; Fr.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.0°;
100.0%; Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.6%; Score 29; DB 2; L
100.0%; Pred. No. 0.00097;
                                                                                                                                                                                                Score 28; ; Pred. No.
  176291 bp
                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                         ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               621 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100 bp
                                                                                                                                                                                                                                                                           80 t
                                                                                                                                                                                              DB 9; Length 621; 0.0049;
    DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 67142;
  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
HTG 24-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRI 18-JUL-2002
                                                                                                                                                                         0,
                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
```

DEFINITION

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCESSION
                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Dodge, S., Domino, M., Doyle, M., Ferreira, P., FitzHugh, W., Gage, D., Galagan, J., Gardyna, S., Ginde, S., Gyette, M., Graham, L., Graham, J., Gardyna, S., Ginde, S., Gyette, M., Graham, L., Graham, J., Graham, J., Graham, J., Graham, J., Graham, J., Hagos, B., Heaford, A., Horton, L., Graham, J., Liev, C., Liu, G., Locke, K., Jones, C., Kann, L., Karatas, A., Klein, J., LaRocque, K., Lamazares, R., Landers, T., Lehoczky, J., Vervine, R., Liev, C., Liu, G., Locke, K., Macdonald, P., Marquis, N., McCarthy, M., McEwan, P., McGurk, A., McKernan, K., McPheeters, R., McCarthy, M., McEwan, P., McGurk, A., McKernan, K., McPheeters, R., Meldrim, J., Meneus, L., Mihova, T., Miranda, C., Mlenga, V., Morrow, J., Murphy, T., Naylor, J., Norman, C.H., O'Connot, T., O'Donnell, P., O'Neil, D., Olivar, T.M., Oliver, J., Peterson, K., Pierre, N., Pisani, C., Pollara, V., Raymond, C., Riley, R., Rogov, P., Rothman, D., Pisani, C., Pollara, V., Raymond, C., Riley, R., Rogov, P., Rothman, D., Stange-Thomann, N., Schauer, S., Severy, P., Spencer, B., Stange-Thomann, N., Schauer, S., Severy, P., Spencer, B., Stange-Thomann, N., Stojanovic, N., Subramanian, A., Talamas, J., Tesfaye, S., Theodore, J., Tirrell, A., Travers, M., Trigilio, J., Voung, G., Zainoun, J., Zimmer, A. and Zody, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Boukhgalter, B., Brown, A., Burkett, G., Campopiano, A., Castle, A., Choepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., DeArellano, K., Dewar, K., Dodge, S., Domino, M., Doyle, M., Porest, C., Gage, D., Renestor, J., Ferreira, P., Fitzhlugh, W., Forrest, C., Gage, D., Galagan, J., Gardyna, S., Ginde, S., Goyette, M., Graham, L., Grand-Pierre, N., Grant, G., Hagos, B., Heaford, A., Horton, L., Grand-Pierre, N., Grant, G., Hagos, B., Heaford, A., Horton, L., Howland, J.C., Iliev, I., Johnson, R., Jones, C., Kann, L., Karatas, A., Klein, J., Landers, T., Largocque, K., Lehoczky, J., Levine, R., Klein, J., Locke, K., Macdonald, P., Marquis, N., McCarthy, M., McEwan, P., McGurk, A., McKernan, K., McPeterers, R., Meddrin, J., Maylox, J., Maylox, J., Morman, C.H., O'Connor, T., O'Donnell, P., O'Neil, D., Olivar, T.M., Peterson, K., Pierre, N., Pisani, C., Pollara, V., Raymond, C., Peterson, K., Poerre, N., Pisani, C., Pollara, V., Raymond, C., Riley, R., Rogov, P., Rothman, D., Roy, A., Santos, R., Schauer, S., Severy, P., Spencer, B., Stange-Thomann, N., Stojanovic, N., Trigilio, J., Vassillev, H., Viel, R., Vo, A., Wilson, B., Wh., X., Whyan, D., Ye, M. J., Young, G. Zainoun, J. Zimmer, A. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Research, 320 Charles Street, Cambridge, MA 02141, USA
3 (bases 1 to 176291)
Birren, B., Linton, L., Nusbaum, C., Lander, E., Abraham, H., Allen, N., Barren, B., Linton, L., Nusbaum, C., Lander, E., Abraham, H., Allen, N., Anderson, S., Baldwin, J., Barna, N., Bastien, V., Beda, F., Anderson, S., Bukkett, G., Boukhgalter, B., Brown, A., Burkett, G., Campopiano, A., Costle, A., Choepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Domino, M., Doyle, M., Ferreira, P., Fitzhugh, W., Gage, D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens chromosome 19 clone RP11-294I20 map 19, WORKING DRAFT SEQUENCE, 38 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Birren,B., Linton,L., Nusbaum,C., Lander,E., Abraham,H.,
Anderson,S., Baldwin,J., Barna,N., Beda,F., Boguslavkiy,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HTG; HTGS_PHASE1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AC023583.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (15-FEB-2000) Whitehead Institute/MIT Center for Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                        Research,
                                                                                                                                                                                                                                                                                        All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
                                                                                                                                                                                                                                                http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (bases 1 to 176291)
                                                                                                                   Center code: WIBR
                                                                                                                                                                Center: Whitehead Institute/ MIT Center for Genome Research
                                        Contact: sequence_submissions@genome.wi.mit.edu
                                                                           Web site: http://www-seq.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wyman, D., Ye, W.J., Young, G., Zainoun, J., Zimmer, A. and
                                                                                                                                                                                                                                                                                                                                                                            (24-AUG-2002) Whitehead Institute/MIT Center for Genome 320 Charles Street, Cambridge, MA 02141, USA 2000 this sequence version replaced gi:6978295.
Project Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HTGS_DRAFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Abraham, H., Allen, N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ciy, L.,
Castle, A.,
```

```
arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown This record will be updated with the finished sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NOTE: This is a 'working draft' sequence. It currently consists of 38 contigs. The true order of the pieces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      be preserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  as soon as it is available and the accession number will
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequencing vector: M13; M77815; 100% of reads Chemistry: Dye-terminator Big Dye; 100% of rea Assembly program: Phrap; version 0.960731 Consensus quality: 157557 bases at least Q40 Consensus quality: 165762 bases at least Q30 Consensus quality: 165762 bases at least Q30 Consensus quality: 169579 bases at least Q30 Consensus quality: 169579 bases at least Q20 Consensus quality: 169579 bases at least Q30 Consensus quality: 169579 bases quality: 169579 b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Center project name: L6822
Center clone name: 294_I_2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Quality coverage: 4.3 in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Center clone name: 294 I 20
                                                                                                                                                                                                  60605
                                                                                                                                                                                                                                                                                50669
                                                                  70006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21236 21335: gap of 100 bp
21336 23647: contig of 2312 i
23648 23747: gap of 100 bp
23648 23747: contig of 3028 i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18266 18365: gap of 100 bp 18366 21235: contig of 2870 k
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14714 14813: gap of 100 bp
14814 16251: contig of 1438 k
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11040 11139:
11140 128
                                                                                                                                                                                                                              56285
                                                                                                                                                                                                                                                       56185
                                                                                                                                                                                                                                                                                                           50569
                                                                                                                                                                                                                                                                                                                                                                                      42852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                34078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         33978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16252 16351:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12870 12969: gap of 100 bp
12970 14713: contig of 1744 J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9630 contig of 1157 bp in length
9631 9730: gap of 100 bp
9731 11039: contig of 1309 bm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100 bp
5199: contig of 1292
5200 5299: gap of 100
6456
                                                                                                                                                64626
                                                                                                                                                                            60705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3807: contig of 1064 bp in length
3808 3907: gap of 100 bn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6457 6556:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1113 1212:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29929: gap of 100 bp
33977: contig of 4048
34077: gap of 100 bp
37757: contig of 3680
                                                                                                                                                                                                                                                 50668: gap of 100 b
56184: contig of 5516
56284: gap of 100 b
                                                                                                                                                                                               60704:
                                                                                                                                                                                                                                                                                                                                                                                                                                     37857: gap of 100 bp
42751: contig of 4894 l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26875:
                                                                                                                                          64725: gap of
                                                                                                                                                                                                                                                                                                                                                          47206:
                                                                                                                                                                                                                                                                                                                                                                                                            42851: gap of
60604: contig of 4320
704: gap of 100 by
64625: contig of 3921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25/75: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          139: gap of 100 bp
12869: contig of 1730 l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    151: gap of 100 bp 18265: contig of 1914 l
                                                                                                                                                                                                                                                                                                                                 50568
                                                                                                                                                                                                                                                                                                                                                                                 47106: contig of 4255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6: gap of 100 bp
8373: contig of 1817 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1112: contig of 1112 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2643:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2643: contig of : gap of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gap of
                                                                                                                                                                                                                                                                                                                                                        gap of
                                                                                                                                                                                                                                                                                                                      p of 100 bp contig of 3362 k
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100
                                                                                                                                                100 bp
f 3921 bp in length
                                                                                                                                                                                                                                                                                                                                                             100 bp
f 4255 bp in length
                                                                                                                                                                                                                                                       100 bp
                                                                                                                                                                                                                                                                                                           100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1431 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 đđ
                                                                                                                                                                                                                              bp in
                                                                                                                                                                                                                                                                                                                               bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                           bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in length
                                                                                                                                                                                                                                                                                bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length
                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                reads
```

length

```
RESULT 15
AC121463/c
LOCUS
                                                                                                                                                                                                            Db 37682 CGCCAGCAGCCCCGGGCCCGGGCT 37705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                 EYWORDS
                                                   VERSION.
                                                                      ACCESSION
                                                                                                       DEFINITION
ORGANISM
                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                 Best Local
                                                                                                                                                                                                                                             3579 CGCCAGCAGCCCCGGGCCCGGGCT 3602
                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                         misc feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    isc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        isc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         isc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           feature
Rattus norvegicus
              HTG; HTGS_PHASE1.
Rattus norvegicus.
                                                 AC121463.2 GI:21909415
                                                                      AC121463
                                                                                 Rattus norvegicus clone CH230-33J4, 50 unordered pieces.
                                                                                                                      AC121463
                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            138157 138256: gap of 100 bp
138257 147577: contig of 9321 bp in length
147578 147677: gap of 100 bp
147578 161828: contig of 14151 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 161829 161928: gap of 100 bp
161929 176291: contig of 14363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  129857 129956: gap of 100 b
129957 138156: contig of 8200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         119513 119612: gap of 119613 129856: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              111951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           111851 111950: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          91035 91134: gap of 100 bp 91135 9688: contig of 5552 bp in length 96887 96786: gap of 0 bp 96787 104241: contig of 7455 bp in length 104242 104341: gap of 100 bp 104342 111850: contig of 7509 bp in length
                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               79665 79764: gap of 100 bp
79765 85612: contig of 5848 bp
85613 85712: gap of 100 bp
85713 91034: contig of 5322 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       85613 85712:
85713 910:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="assembly_fragment"
9731. .11039
                                                                                                                                                                                                                                                                                                                                                                                      14814.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="assembly_fragment"
11140. .12869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8474.
                                                                                                                                                                                                                                                                                                                                                                /note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                 note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                    note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="RP11-294I20"
/clone_lib="RPCI-11 Human Male BAC"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'chromosome="19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              119512:
                                                                                                                                                                                                                                                                                               100.0%;
                                                                                                                                                                                                                                                                                                                0.5%;
                                                                                                                                                                                                                                                                                                                                                     .18265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .9630
                                                                                                                                                                                                                                                                                                                                                                                      .16251
                                                                                                                                                                                                                                                                                                                                                                                                                           .14713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3807
                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                             Score 24; DB 2; Length 176291; Pred. No. 0.55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ap of 100 bp contig of 10244 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ap of 100 bp
contig of 7562 bp in length
                                                                                                                      77863 bp
                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100 bp
8200 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   bp in length
                                                                                                                                                                                                                                                                               0,
                                                                                                     SEQUENCING IN PROGRESS ***,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in length
                                                                                                                    HTG 24-JUL-2002
                                                                                                                                                                                                                                                                             0
```

```
TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Jacobson, B., Jia, Y., Johnson, R., Jolivet, S., Joudah, S.,
Karlsson, E., Kelly, S., Khan, U., King, L., Korvah, J., Kovar, C.,
Kratovic, J., Kureshi, A., Landry, N., Leal, B., Lewis, L.C., Lewis, L.
Li, J., Li, Z., Lichtarge, O., Lieu, C., Liu, J., Liu, W., Loulseged, H.,
Lozado, R.J., Lu, X., Lucier, A., Lucier, R., Luna, R., Ma, J.,
Mahashwari, M., Mapua, P., Martin, R., Martindale, A., Martinez, E.,
Massey, E., Mawhiney, E., McLedd, M. P., Meador, M., Morris, G., Metzker, M.,
Miner, G., Miner, Z., Mitchell, T., Mohabbat, K., Morgan, M., Morris, S.,
Moser, M., Neal, D., Newtson, J., Newtson, M., Nguyen, A., Nguyen, N.,
Nguyen, N., Nickerson, E., Nwokenkwo, S., Oguh, M., Okwuonu, G.,
Oragunye, N., Oviedo, R., Pace, A., Payton, B., Peery, J., Perez, L.,
Peters, L., Pickens, R., Primus, E., Pu, L. L., Quiles, M., Ren, Y.,
Rives, M., Rojas, A., Rojubokan, I., Rolfe, M., Ruiz, S., Savery, G.,
Scherer, S., Scott, G., Shen, H., Shooshtari, N., Sisson, I.,
Sutton, A., Svatek, A., Tabor, P., Tamerisa, A., Tamerisa, K., Tang, H.,
Tansey, J., Taylor, C., Taylor, T., Telfrod, B., Thomas, N., Thomas, S.,
Usmani, K., Vasquez, L., Vera, V., Villalon, D., Vinson, R., Wang, Q.,
Wang, S., Ward-Moore, S., Warren, R., Washington, C., Watlington, S.,
Wulliams, G., williamson, A., Wleczyk, R., Wooden, S., Worley, K.,
Wulliams, G., and Gibbs, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bouck, J., Bowie, S., Brieva, M., Brown, E., Brown, M., Bryant, N.P., Buhay, C., Burch, P., Burkett, C., Burrell, K.L., Byrd, N.C., Carron, T.F., Carter, M., Cavasos, S.R., Chacko, J., Chavez, D., Chen, G., Chen, R., Chen, Z., Chowdhry, I., Christopoulos, C., Chen, G., Chen, R., Chen, Z., Chowdhry, I., Christopoulos, C., Cleveland, C.D., Cox, C., Coyle, M.D., Dathorne, S.R., David, R., C., Bdgar, D., Edwards, C.C., Elhaj, C., Escotto, M., Falls, T., Ferraguto, D., Flagg, N., Ford, J., Foster, P., Frantz, P., Falls, T., Ferraguto, D., Flagg, N., Ford, J., Foster, P., Frantz, P., Gabisi, A., Gao, J., Garcia, A., Garner, T., Garza, N., Gill, R., Gorrell, J.H., Guevara, W., Gunaratne, P., Hale, S., Hamilton, K., Hartis, K., Hatt, M., Havlak, P., Hawes, A., Hernandez, J., Homsi, F., Howard, S., Hube, J., Holloway, C., Hollins, B., Homsi, F., Howard, S., Hube, J., Hartyk, S., Hume, J., Jackson, L.E., Toheson, B., Tollagh, S., Martis, R., Haylyk, S., Hume, J., Jackson, L.E., Toheson, B., Tollagh, S., Martis, R., Tollagh, S., Martis, R., Tollagh, S., Martis, M., Haylak, S., Hume, J., Jackson, L.E., Toheson, B., Tollagh, S., Martis, M., Haylak, S., Hume, J., Jackson, L.E., Toheson, B., Tollagh, S., Martis, M., Haylak, S., Hume, J., Jackson, L.E., Darcheson, R., Hilley, J., Martis, R., Martis, R., Land, M., Martis, R., Martis, R., Hume, J., Jackson, L.E., Land, M., Land, 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (24-JUL-2002) Human Genome Sequencing Center, Depa of Molecular and Human Genetics, Baylor College of Medicine, Baylor Plaza, Houston, TX 77030, USA On Jul 19, 2002 this sequence version replaced gi:20976415.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (18-MAY-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Worley, K.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Worley, K.C.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Muzny,D.M., Adams,C., Adio-Oduola,B., Ali-osman,F.R., Allen,C., Alsbrooks,S.L., Amaratunge,H.C., Are,J.R., Ayele,M., Banks,T., Barbaria,J., Benton,J., Bimage,K., Blankenburg,K., Bonnin,D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (bases 1 to 77863)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (bases 1 to 77863)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 77863)
Assembly program: Phrap; version 0.990329
Consensus quality: 15937 bases at least Q
Consensus quality: 17859 bases at least Q
                                                                                                                                                              Sequencing vector: Plasmid;
Chemistry: Dye-terminator Big Dye: 100% of reads
                                                                                                                                                                                                                                                                                                                                       Center project name: GYMJ Center clone name: CH230-33J4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: hgsc-help@bcm.tmc.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Web site: http://www.hgsc.bcm.tmc.edu/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Center: Baylor College of Medicine Center code: BCM
                                                                                                                                                                                                                                                                                                                                                                                                                                       ----- Project Information
           least Q40
least Q30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Department
```

```
NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.edu/docs/Genbank draft data.html).

NOTE: This is a 'working draft' sequence. It currently consists of 50 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Consensus quality: 19063 bases at least Q20
                                                                                                                                                                           14821
16757
17962
17962
118062
11808
19335
119335
21108
22108
22109
22290
22909
22907
24172
24172
25541
26651
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
26851
2685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9543
10678
10778
11787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13491
13591
14721
              34847
34947
36524
36524
38156
38256
39686
39786
41219
41319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1029
1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6797
8334
8434
9443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9542:
10677:
10777
                                                                                                                                                                           32257:
32357:
32381:
33481:
34846:
                                                                                                                                                                                                                                                     30962:
31062:
                                                                                                                                                                                                                                                                                                                                                                                                                    22908:
24071:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19334:
21087:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16756:
17961:
                            36523:
38155:
38255:
39685:
39785:
41218:
41318:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6796:
8333:
8433:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     22808:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of
contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gap of contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gap of
contig
          gap of contig gap of contig gap of contig gap of gap of gap of gap of gap of gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap of contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gap of contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gap of contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gap
                                                                                                                                                                                                         gap of contig gap of contig
                                                                                                                                                                                                                                                                                                                                                          gap of
contig
gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of
                                                                                                                                               gap of contig
                                                                                                                                                                           gap of
                                                                                                                                                                                                                                                                 gap of contig
                                                                                                                                                                                                                                                                                               gap of
contig
                                                                                                                                                                                                                                                                                                                            gap of
                                                                                                                                                                                                                                                                                                                                                                                                                    gap of contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                gap of contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          unknown
g of 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of 1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown
of 1130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of 1028
unknown
                                                                                                                                                                                                                                                                                                                                                                                                                     unknown
of 1163
                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown
of 1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unknown
of 1205
                                                                                                                                                                                                         unknown
of 1195
unknown
of 1024
                                                                                                                                                                                                                                                                                               unknown
of 1216
                                                                                                                                                                                                                                                                                                                            unknown
of 1404
                                                                                                                                                                                                                                                                                                                                                          unknown
of 1110
                                                                                                                                                                                                                                                                                                                                                                                        unknown
of 1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of 1055 bp in l
unknown length
of 1632
unknown
of 1430
unknown
of 1433
unknown
of 1264
unknown
of 1397
                                                                                                                                               unknow
of 147
                                                                                                                                                                           unknown
of 1365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of 1604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of 1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of 1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of 1537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of 1178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of 1523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of 1512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of 1753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of 1836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown
                                                                                                                                                                                                                                                                    of 1292
                                                                                                                                                                                                                                                                                    unknown
                                                                                                                                   unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0 bp ...
wn length
~< bp in length
~+h ~~t)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         s bp ...
wn length
ho in '
                                                                                                                                                                                                                                                                                                                                                                                      length
bp in length
length
pp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ďď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bp in length
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bp in length bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in l
                                                                                                          length
                                                                                                                                                                                                                                                                   length
bp in
                                                                                                                                                                                                                                                                                                                            length
bp in 1
                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bp in length
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                              đđ
                                                                                                                                                                                length
bp in
                                                                                                                                                                                                                                       length
bp in length
                                                                                                                                                                                                                                                                                                ďq
                               bp in length
                                                           length
bp in length
                                                                                     length
bp in length
                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                               length
                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in length
                                                                                                                                                                                                                                                                                                  1n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in length
in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                 length
                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                          length
```

```
ORIGIN
                                                                                                                                                      FEATURES
Search completed: March
Job time : 16606 secs
                                  뮹
                                                                                                            BASE COUNT
                                                            Query Match
Best Local Similarity 100.0%; P.
Matches 23; Conservative 0;
                                 24913 GACCTCTACCTGCTCATGCTGAC 24891
                                            1149 GACCTCTACCTGCTCATGCTGAC 1171
                                                                                                                                              source
                                                                                                             16731 a
                                                                                                                                                               65960
66060
67293
67393
69151
70908
70908
72342
72442
74649
                                                                                                                                                                                                                                                                  62418
63989
64089
                                                                                                                                                                                                                                                                                           60391
62318
                                                                                                                                                                                                                                                                                                            59127
60291
                                                                                                                                                                                                                                                                                                                             46885
48457
48557
49953
50083
51589
51689
53976
54076
56150
56250
57289
57389
                                                                                                                                                                                                                                                                                                                                                                                                                                                   46785
                                                                                                                    /organism="Rattus norvegicus"
/db_xref="taxon:10116"
/clone="CH230-33J4"
                                                                                                                                                      Location/Qualifiers
                                                                                                             20151 c
         29,
                                                                                                                                                                                               67392: gap of
69150: contig
69250: gap of
70807: contig
70907: gap of
72341: contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                          45610:
45710:
46784:
                                                                                                                                                                                                                         66059:
67292:
67392:
69150:
69250:
                                                                                                                                                                                                                                                                                                                                                                                                         50082:
51588:
                                                                                                                                                                                                                                                                                                                                               57388:
                                                                                                                                                                                                                                                                                                                                                                                54075:
                                                                                                                                                                                                                                                                                                                                                                                        53975:
                                                                                                                                                                                                                                                                                                                                                                                               51688:
                                                                                                                                                                                                                                                                                                                                                                                                                                  48556:
                                                                                                                                                               74648: gap of unknown
77863: contig of 3215
                                                                                                                                                                                72441: gap of unknown
74548: contig of 2107
                                                                                                                                                                                                                                                                                                                      60290:
                                                                                                                                                                                                                                                                                                                                                                                                                                          48456:
         2003, 07:02:48
                                                                                                               20587
                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of contig gap of contig gap of contig gap of contig
                                                                                                                                                                                                                                                                                                                            gap of contig gap of contig gap of
                                                                                                                                                                                                                                                                                                                                                                                       gap of contig gap of contig gap of contig gap of contig
                                                                                                                                                                                                                                                                   gap of
contig
                                                                                                                                                                                                                                                                                    gap of contig
                                                                                                                                                                                                                                                                                                    gap o
                                                                                                                                                                                                                                                                                                                                                                       gap of contig
                                                                                                                                                                                                                                                  gap o
conti
                                                                                                                                                                                                                                                                                                                    conti
                                                                            Score 23; pred. No.
                                                                     Mismatches
                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                of unknown
ig of 1758
of unknown
ig of 1557
of unknown
ig of 1434
                                                                                                             ω
                                                                                                                                                                                                                                                                                                                                                                                       of 1506
unknown
of 2287
                                                                                                                                                                                                                                                                                                                                                                                                                                                           unknown
of 1074
                                                                                                                                                                                                                                                   unknown
of 1233
                                                                                                                                                                                                                                                                                    unknown
of 1571
                                                                                                                                                                                                                                                                                                     unknown
of 1927
                                                                                                                                                                                                                                                                                                                      unknown
of 1164
                                                                                                                                                                                                                                                                    of.
                                                                                                                                                                                                                                                                                                                                                      Of.
                                                                                                                                                                                                                                                                                                                                                                       0f
                                                                                                                                                                                                                                                                                                                                                                                                                                           of 1572
                                                                                                                                                                                                                                                                             unknown
                                                                                                                                                                                                                                                                                                                                       of 1638
                                                                                                                                                                                                                                                                                                                                               unknown
                                                                                                                                                                                                                                                                                                                                                               unknown
                                                                                                                                                                                                                                                                                                                                                                                unknown
                                                                                                                                                                                                                                                                                                                                                                                                                          of 1426
                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown
                                                                                                               15398 t
                                                                                                                                                                                                                                                                                                                                                       1039
                                                                                                                                                                                                                                                                                                                                                                        2074
                                                                                                                                                                                                                                                                    1871
                                                                                     DB
                                                                                                                                                                                                                                                                                                                         4 bp 1...
wn length
bp in '
                                                                        3 2;
2.1;
                                                                                                                                                                                                                                  1 bp in length
1 length
1 length
1 length
1 length
1 length
3 bp in length
1 length
1 length
1 length
1 length
                                                                                                                                                                                                                                                                                                                                                                       bp in langth bp in langth langth langth bp in langth bp in langth bp in langth
                                                                                                                                                              bp in length
n length
7 bp in length
n length
n length
n length
                                                                                                                                                                                                                                                                                                            bp in length length bp in length length
                                                                                                                                                                                                                                                                                                                                                                                                                                                   bp in
length
                                                                                                                                                                                                 bp in l
length
bp in l
length
bp in l
                                                                                                                                                                                                                                                                                     bp in l
length
bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                  bp in
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bp in
length
                                                                                                                4996 others
                                                                     ٥.
                                                                                    Length 77863;
                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                      length
                                                                     Indels
                                                                     0,
                                                                     Gaps
```

0;

•	•				
		·			

```
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Word size :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Post-processing: Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         March 28, 2003, 18:26:44; Search time 1028 Seconds (without alignments)
10153.708 Million cell updates/sec
            OLIGO_NUC
Gapop_60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-927-112-1
4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2185239 seqs, 1125999159 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 tcgcgatctagaactagtgg.....ggtaacggggcccagccccg 4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N_Geneseq_101002:*
1: /SIDS2/gcgdata/geneseq/geneseqn-embl/NA1980.DAT:*
| SIDS2/gcgdata/geneseq/geneseqn-emb1/WA1981.DAT: *
| SIDS2/gcgdata/geneseq/geneseqn-emb1/WA1981.DAT: *
| SIDS2/gcgdata/geneseq/geneseqn-emb1/WA1981.DAT: *
| SIDS2/gcgdata/geneseq/geneseqn-emb1/WA1983.DAT: *
| SIDS2/gcgdata/geneseq/geneseqn-emb1/WA1983.DAT: *
| SIDS2/gcgdata/geneseq/geneseqn-emb1/WA1986.DAT: *
| SIDS2/gcgdata/geneseq/geneseqn-emb1/WA1986.DAT: *
| SIDS2/gcgdata/geneseq/geneseqn-emb1/WA1987.DAT: *
| SIDS2/gcgdata/geneseq/geneseqn-emb1/WA1987.DAT: *
| SIDS2/gcgdata/geneseq/geneseqn-emb1/WA1997.DAT: *
| SIDS2/gcgdata/geneseq/geneseqn-emb1/WA1999.DAT: *
| SIDS2/gcgdata/geneseq/geneseqn-emb1/WA2000.DAT: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4370478
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Ω	a								Result No.	
9	œ	7	σ	vi	4	w	N	٢	No.	
21	21	21	44	56	60	1579	2112	3205	Score	
0.5	0.5	0.5	0.9	1.2	1.3	34.1	45.6	69.1	Query Match 1	æ
1365	1365	896	534	233	60	6551	2243	4237	Query Match Length DB	
16	16	24	24	21	24	24	24	24	!	
AAQ85772	AAQ87044	AAD33703	ABK71572	AAC30759	ABN36694	ABK12390	ABA94696	ABA96005	ID	
Porcine interleuki	Pig interleukin-10	Human secreted pro	Human dithp polynu	Human secreted pro	Human spliced tran	cDNA encoding huma	Human lipid metabo	Human lipid metabo	Description	

cDNA encoding clon		24	4235	0.4	20	45	o.
Human cDNA differe	4 ABK84751	Ņ	4235		20	44	a
Human lung tumour		Ŋ	4235		20	43	a
Human insulin rece	1 AAC68339	N	3809		20	42	
Human insulin rece		2	3806		20	41	
Human lipid metabo		'n	3594		20	40	
Human DNA359-1207		Ņ	3441	٠	20	3 9	
cDNA encoding huma		Ņ	3441		20	ယ 8	
Human PRO243 cDNA		N	3441	•	20	37	
		2	3441		20	ω 6	
Human cDNA sequenc	2 AAH16211	Ŋ	3263	•	20	ω 5	
Mouse melatonin la		H	2796		20	34	a
Novel human phosph	2 AAD17567	2	2709		20	ω ω	
Human phospholipas		ń	2629		20	32	
Rat sequence diffe		5	2573		20	31	
Human phospholipas		ń	2540		20	30	
Human lipid metabo		Ņ	2520		20	29	
Human phospholipas		2	2462		20	28	
Mouse melatonin la		Ñ	2377	0.4	20	27	a
Human phospholipas		Ņ	2289	0.4	20	26	
Novel human phosph		2	2289	0.4	20	25	
e CTLA4		2	1856	0.4	20	24	
CTLA		2	1856		20	23	a
-		22	1840		20	22	
		2	1530		20	21	
ncoding		Ŋ	1245		20	20	o i
High-affinity mela		1	1062		20	19	n
Human Stat6 (signa		24	894		20	18	
Human neuroblastom		N	870		20	17	
ä		23	642		20	16	a
Lung cancer relate		24	426		20	15	a
Human benign prost		24	426		20	14	n
DNA encoding novel		23	324		20	13	
iffer	ABK8412		4519	0	21	12	
m	ABK8453	24	4	•	21	11	
Human cDNA differe	ABK84021	22	4242	•	21	10	

ALIGNMENTS

```
RESULT 1
ABA96005
ID ABA96005;
XX
AC ABA96005;
XX

AC ABA96005;
XX

XX

DT 04-MAR-2002 (first entry)
XX

XX

Human lipid metabolism enzyme-5; cytostatic; neuroprotective;
XX

KW Human; LME-5; lipid metabolism enzyme-5; cytostatic; neuroprotective;
XX

KW inmunnosuppressive; anti-inflammatory; cardiovascular; gene therapy;
XX

KW inflammatory disorder; neurological disorder; autoimmune disorder;
XX

KW inflammatory disorder; cardiovascular disorder; ss.

XX

CS

Homo sapiens.

XX

YT

CDS

Ytag= a

FT

CDS

Ytag= a

FT

XX

PD

15-NOV-2001; 2001WO-US15210.

XX

11-MAY-2000; 2000US-203511P.
PR

23-JUN-2000; 2000US-213392P.

PR

23-JUN-2000; 2000US-213392P.
```

```
Query Match
Best Local Similarity
Matches 3405; Conserv
1487 GGTGGACATGTATGCTTGGGTCCTGCAGGCTGGCTGCCGCTGCGTGGAGGTGGACTGCTG 1546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tissue or cell type, to generate hybridization probes useful in mapping the naturally occurring genomic sequence, and for screening libraries of compounds in drug screening techniques. The polypeptide sequences may be used to analyse the proteome of a tissue or cell type. Oligonucleotide primers derived from polynucleotide sequences encoding LME may be used to
                                                                                                                                                                                                                          1127
                                                                                                                                                                                                                                                                                        1367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 4237 BP; 816 A; 1327 C; 1370 G; 724 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LME may be used for somatic or germline gene therapy, to detect and quantify gene expression in biopsied tissues in which expression of LME may be correlated with disease, to generate a transcript image of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                invention have cytostatic, neuroprotective, immunosuppressive, anti-inflammatory, and cardiovascular activity. The polypeptides and polynucleotides have a use in gene therapy and enzyme therapy. The lipid metabolism enzymes are useful in the diagnosis, treatment and prevention of cancer, neurological disorders, autoimmune/inflammatory disorders, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cardiovascular disorders, and in the assessment of the effects of exogenous compounds on the expression of nucleic acid and amino acid exogenous of lipid metabolism enzymes. LMEs may also be used to screen sequences of lipid metabolism enzymes. LMEs may also be used to screen for compounds that modulate the activity of LME. Polynucleotides encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The sequence encodes a novel human lipid metabolism enzyme (LME-5) the invention. The invention relates to novel human LME's, and the polynuclectides which identify and encode them. The enzymes of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New lipid metabolism enzymes useful for diagnosing, treating and preventing cancer, neurological disorders, autoimmune/inflammatory disorders, and cardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 5; Page 121-122; 122pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 127 | CAAGATGATGTCCACCCGCCGGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACAA | 1186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      detect single nucleotide polymorphisms.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Das D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .067 GGAAGCGGACACGGATGACCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTA 1126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (INCY-) INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PSDB; ABB08205.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGG 1246
                                                                        CTTCATCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACG
                                                                                                                    CTTCATCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACG
                                                                                                                                                                                                           CATCTTCAACCCTGAGCACCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTA 1186
                                                                                                                                                                                                                                                           CATCTTCAACCCTGAGCACCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTA 1426
                                                                                                                                                                                                                                                                                                                                                      GAGTAAGGGGCTGCTGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                GAGTAAGGGGCTGCTGGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGA 1366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAA 1306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGG 1006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACAA 946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D, Reddy R, Yao MG, FA, Gandhi AR, Au-y L, Thornton M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGAAGCGGACACGGATGACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTA 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2002-089794/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        69.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                polynucleotide sequences encoding LME may be used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MG, Nguyen DB, Lu Y, Triboule Au-young J, Lal P, Kearney L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 3205;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 24; Length 4237;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tribouley CM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Elliott VS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Yue H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                          1486
                                                                                                                                                                                                                                                                                                                                                      1126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1066
                                                                        1246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
```

5

밁

55 B 유

유

2626	7 GATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACCTAC	Оу 256	
2566 2326	7 GCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCG 	Qy 250 Db 226	
2506 2266	7 GCAGCAGCTCTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTACAACCC	Qy 244 Db 220	
2446 2206	7 CGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCA 	Qy 238 Db 214	
2386 2146	CGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAG	ф 208	
2326	GCAGAAGAAGACCATGAAGCTGTCCCGGGCCTCTCTGACCTGTGAAGTACACCAA	2 2	
02	CGTGGAGGAGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAGA	19 2	
96	7 GTTGTTGGGAAGCTTCTTCCAGGGGCAAGAAGAAGGGCAGCAAGCA	2 1 2	
2146 1906	7 GGCTGAAGAGAACGTGGAGTCTGGGGAAGATGCCGGGGCCAGCAAACGCAATGGCCGCCCT 	Db 184	
0 4	7 CCCCAACAACTTCTCCGTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGC	17	
2026 1786	67 CACTGCTAAGAGGAAACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGA	7 9	
1966 1726	77 TGACGATGACTGCAAGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAA	Qy 190 Db 166	
1906	17 CAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGAT	Qy 184 Db 160	
1846 1606	37 ACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCCAGC	Qy 178 Db 154	
1786 1546	27 GACTGACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCAC	Qy 172 Db 148	
1726 1486	57 GATICCTGTCCATCGAAAACCACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCAGTATCT 	Qy 166 Db 142	
1666 1426	07 CTTCAAAGACGTCATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGT	Qy 16 Db 13	
0 0	7 GGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCC	1 1 1	
1306	47 GGTGGACATGTATGCTTGGGTCCTGCAGGCTGGCTGCGTGGAAGGTTGGATTGCTTG	Db 12	

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                    S
                                                                                                                δ
                                                                                                                                              뭐
                                                                                                                                                                 Ś
                                                                                                                                                                                           밁
               5
                                             В
                                                                  S
                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2987
                                                                                                                      3527
                                                                                                                                                                                                3167
                                                                                                                                                                                                                      3407
                                                                                                                                                                                                                                                 3107
                                                                                                                                                                                                                                                                                                 3047
                                                                                                                                                                                                                                                                                                                                                  2987
                                                                                                                                                                                                                                                                                                                                                                          3227
                                                                                                                                                                                                                                                                                                                                                                                                  2927
                                                                                                                                                                                                                                                                                                                                                                                                                           3167
                                                                                                                                                                                                                                                                                                                                                                                                                                                    2867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2807
                    3647
                                              3347
                                                                       3587
                                                                                                3287
                                                                                                                                               3227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCTGGGTGCATGTGCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCTGGGTGCATGTGCCAGGGGGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAA 3106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGGATGGAAGAGGCCTCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACCTGGGAGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTTGGTCCGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTCCCTGTGGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCCATGCTGGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAA
                                                                                                                                                                                                                                                                                                                                                                 GAGCCAGAAGCCGGGCCGCAGGGGCTTCCCGGAGCTGGTCCTGGGTACACGGGACACAGG
                                                                                                                                                                                                                                                                                                                                                                                                  CCCGGCCCCGCCCTCCGTTAGCCAGCGGATCCTGCGGCGCACCAGCGCCCCGACCAA
                                                                                                                                                                                                                                                                                                                                                                                                                  AGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGCAGCATGATGCCAGGCTACAGACACGTGTACCTGGAGGGGATGGAAGAGGCCTCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCTGGGAGGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTCCCTGTGGACTGCAGCAGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCCATGCTGGGGGACCGTGGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGG
                                             GCCCCGGGCCCGGCTGACTCACTGGGGGCCCCCTGCTGTGGCCTGGACCCTCACGCTAT
                                                                                                            GAAGAGCCCTGTGCGAGTGCGGCCCCCGCGTGTCCTGGACGGCCCCGGGCCTGCTGGGAT
                                                                                                                                                                                                                                                                                                              CTCCAAGGGGTGGCAGACGATGTGGTGCCCCCCGGGCCCGGACCTGCTCCGGAAGCCCC
                                                                                                                                                                                                                                                                                                                                                  GAGCCAGAAGCCGGGCCGCAGGGGCTTCCCCGGAGCTGGTCCTGGGTACACGGGACACAGG
CCCGGGGAGAAGCAGAGAGGCCCCCAAGGGTCCTGGGGCCTGGAGGCAGGGTCCAGGCGG
           GGCCGCCACATGCATGAAGTGTGTGGTGGGATCCTGCGCCGGCGTGAACACCCGGGGGCCT
                                                                                                                                                            GGCCGCCACATGCATGAAGTGTGTGTGGTGGGATCCTGCGCCGGGGGTGAACACCCGGGGGCCT
                                                                                                                                                                                               GAAGAGCCCTGTGCGAGTGCGGCCCCCGCGTGTCCTGGACGGCCCCGGGCCTGCTGGGAT
                                                                                                                                                                                                                                                  <u>AGCCCAGGAGGGGCCCGGCAGCGGCAGCCCCCGAGGTAAGGCGCCAGCTGCGGTGGCAGA</u>
                                                                                                                                                                                                                                                              AGCCCAGGAGGGGGCCGGCAGCCAGCCCCCGAGGTAAGGCGCCAGCTGCGGTGGCAGA
                                                                                                                                                                                                                                                                                                 CTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCCGGGCCCGGACCTGCTCCGGAAGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2686
                                                                                                                         3586
                                                                                                                                                                                                                                                                           3406
                                                                                                                                                                                                                                                                                                                            3346
                                                                                                                                                                                                                                                                                                                                                                                                                              3226
                                                                                                                                                                                                                                                                                                                                                                                                                                                       2926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2566
                                                                        3646
                                                                                                 3346
                                                                                                                                                                          3526
                                                                                                                                                                                                   3226
                                                                                                                                                                                                                         3466
                                                                                                                                                                                                                                                  3166
                                                                                                                                                                                                                                                                                                     3106
                                                                                                                                                                                                                                                                                                                                                     3046
                                                                                                                                                                                                                                                                                                                                                                              3286
                                                                                                                                                                                                                                                                                                                                                                                                     2986
                                                 3406
                                                                                                                                                 3286
                        3706
 3466
```

```
RESULT 2
ABA9469A
ABA9469A
AC ABA9
AC 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3827
                                                                                                                                                                                                                                                                                                                                                                        ABA94696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGGCACTGTCTCCGTGGCACTCTGCTTCCCTTGGCTTGCCTGTGGCCCATAGCCCCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCCTCTIGCCCTGCGTGGTCCTCCCGCACGCCCTGGCATGGCTGGGCTGGGTCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTGTTTGCTCAAAAGCTGGAGGAGAICAGGAGTAAATCCCCCCATGTTCTCCGCCGGTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCCCGCTGGCCTGAGGGTGCCTGCAGGCAACCGGGGGGCCCTGCAGGGAGAGATGAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCCCCAGGGCTTCGCTGCTTTGGGCTGAAGCACCCCACTAGAAGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCCTCCGGCTGGGCGTTCCCCAAACTCACCTCCTGGGCGGCTGGCGACCTGCATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGGAAGAACCAGCTGCTCTTGCTGAGGGTCTGGGGCCGGGACTGTGGCCTGACATGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTCCTGTCTGAGCTTGAGGCCCTGGGACTTGGGTGGAGCTGGTTTGAGGCCCGACAGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCTGCTGCTTCTGCGTGGACGGTGTCCGCCTCGTGGCTCGTGGCTCGTATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCCCTCTTGCCCTGCGTGGTCCTCCCGCACGCCCTGGCATGGCTGGGCCTGGGTCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTGTTTGCCCAAAAGCTGGAGGAGATCAGGAGTAAATCCCCCATGTTCTCCGCCGGTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCCCCCTGGCCTGAGGGTGCCTGCAGGCAACCGGGGCCCTGCAGGGAGAGATGAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTCTCCTGCGCCCCTGGGACGCCTGGAGCCTGCTGAGTGCTGCGTGGAGTAGATTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAGGCTCCAGGGGTCCCTACTGGGAAGTCTGATGTGGGGCAGGTAGTGCAGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCCCTCCGGCTGGGCGCTTCCCCAAACTCACCTCCTGGGCGGCTGGCGACCTGCATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGGAAGAACCAGCTGCTCTGCTGAGGGTCTGGGGCCCGGGACTGTGGCCCTGACATGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCTCCTGCGCCCTGGGACGCCTGGAGCCTGCTGAGTGCGTGGAGTAGATTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCAGGCTCCAGGGGTCCCTACTGGGAAGTCTGATGTGGGCAGGTAGTGCAGCTGCTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCTGATGCCTTTCCTGGGACTGGGGGCCACGTACCATCCCATTCCCACCTCCCTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTCCTGTCTGAGCTTGAGGCCCTGGGACTTGGGTGGAGCTGGTTTGAGGCCCGACAGGCT
                                                                                                                                                                                                                                                                                                                                                                        standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                            2243
                                                                                                                                                                                                                                                                                                                                                                            ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4126
```

Human lipid metabolism molecule (LMM) cDNA (ID: 2965233CB1).

23-APR-2002

(first entry)

Lipid metabolism molecule; LMM; cytostatic; nootropic; neuroprotectiv anticonvulsant; immunosuppressive; anti-inflammatory; dermatological; cardiovascular; antiHIV; antiemetic; antiallergic; hypertensive; huma gene therapy; protein therapy; ss. neuroprotective;

Homo sapiens

Location/Qualifiers 321..2189

밁

```
Ş
                                                밁
                                                                                   5
                                                                                                                               ₽
                                                                                                                                                                     Ś
                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 2162; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-JUL-2000; 2000US-216801P.
07-JUL-2000; 2000US-216803P.
14-JUL-2000; 2000US-218233P.
21-JUL-2000; 2000US-220046P.
26-JUL-2000; 2000US-220739P.
04-AUG-2000; 2000US-222824P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and assess the toxicity of test compounds. The LMM polypetides, medularcors and antibodies are specifically useful for diagnosing, treating or preventing cancers (e.g. adenocarcinoma, leukemia, lymphoma, melanoma or sarcoma), neurological disorders (e.g. epilepsy, stroke, cerebral neoplasms, Alzheimer's disease or Pick's disease), autoimmune/inflammatory disorders (e.g. ANDS, Addison's disease, allergies, asthma, or atherosclerosis), gastrointestinal disorders (e.g. dysphagia, peptide esophagitis, gastritis, gastric carcinoma, anorexia or nausea), skin disorders (e.g. dermatitis, eczema, or scleroderma), and cardiovascular disorders (e.g. hypertension, arterial dissections, vascular tumours, or thromboliveis) who present commence processors of the present commence are real sections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2243 BP; 499 A; 678 C; 691 G; 375 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention provides human lipid metabolism molecule (LMM) polypeptides and polynucleotides. The LMM polypeptides can be expressed by standard recombinant methodology. The LMM polypeptides are useful for diagnosing or treating a condition or disease associated with the expression of LMM, of screening for compounds that specifically bind to or modulate the activity or expression of LMM. They are also used to generate antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               thrombolysis). The present sequence represents a human LMM polynucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tạng YT, Azimzai Y, Das D, Thornton M, Lu DAM, Tribouley CM;
Yục H, Gandhi AR, Walia NK, Khan FA, Lu Y, Yao MG, Hafalia AJA;
Elliott VS, Patterson C, Lal P, Ramkumar J, Nguyen DB, Baugn MR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 5; Page 123-124; 128pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cancers,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              skin and cardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lipid metabolism molecules useful in diagnosing, treating or preventing cancers, and neurological, autoimmune/inflammatory, gastrointestinal,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-JUL-2001; 2001WO-US21432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200204490-A2.
                                                                                          292
                                                                                                                                                                            232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (INCY-) INCYTE GENOMICS INC.
                                                                                                                                  121
52 TGGACGGCCGGCCCAGCTGGTGATCCCAGCCAGTCCCAGCTTTCAGTTGCTGCCCCCAC 411
                                                                                                                                                                                                                                                             172
                                                                                                                                                                                                                                                                                                                                             171 GECCCTGAGGCTGAGGGCTGAGTGCTCATTCCAGCCGCCTCGGGGAACCCGGGCTGGGA 171
                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PSDB; ABB07493.
                                                                                                                                                                                                                                                                                                     \vdash
                                                                      AAGGGACACCGGGGGCCCTGGGAGCAGAGAGACCTCAGAGCAGCCTCCTCCTGCCTCCTG 351
                                                                                                                                                        GGGCTGGGCACCACCAGGCTTGGGTGTGATGCGCTGCTGGCCCAGGCTACACCCCGAC 291
                                                                                                                                                                                                                                                GACCCCATGCCTGGGGGTGAGCCTGGAGCCAGGGCAGTGCGGTGAGAGGCTCCGGAGAGA 231
                                            AAGGGACACCGGGGGGCCCCGGGAGCAGAGACCTCAGAGCAGCCTCCTCCTGCCTCCTG
                                                                                                                             GGGCTGGGCACCACCAGGCTTGGGTGTGATGCGCTGCTGGCCCAGGCTACACCCCGAC 180
                                                                                                                                                                                                                 GACCCCATGCCTGGGGGTGAGCCTGGAGCCAGGGCAGTGCGGTGAGAGGCTCCGGAGAGA
                                                                                                                                                                                                                                                                                                   GGCCCTGAGGCTGAGGGGCTGAGTGCTCATTCCAGCCGCCTCGGGGAACCCGGGCTGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2002-164631/21.
                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag= a
/product= "LMM"
                                                                                                                                                                                                                                                                                                                                                                                                        45.6%; Score 2112;
100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                            DB 24; Length 2243;
                                                                                                                                                                                                                                                                                                                                                                                  1; Indels
                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                            240
                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                  0
```

### 1504.00000000000000000000000000000000000																				
241 TORACOGECCOGACTICACICAMENTICACACCACACTICACTICATICACICANA 201 262 CENTIFICACICACTICACICACACTICACICAMACACTICACICACACTICACICACACTICACICACACTICACICAC	γ	Db	VQ VQ	Db Qy	ρρ	Db Qy	D 29	dg VQ	Db Qy	B 8	D Q	Db Qy	70 70	yQ dd	90 VQ	D Qy	Qy Db	D 09	Db Qy	Db
CCAACCTPACAACCAGCCAGCCACCACCACACACCACACACCACAC	w	6	.37		2 5	.08	02	6	0 1	952 841	8 9	NÜ	6 7	0 H	r 4.	80 00	ν ω	6 7	0 1	4
	TCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGG 14	CAACCCTGAGCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCA 1	TCAACCCTGAGCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCA 1	ACCAACTACACCAGGAGCCCTGCTGGTGACATCT 1	CCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTA 1	ACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGA 1	TGATGTCCACCCGCGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACAAGGACC 1	CGGACACGGATGACCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGA 1	TGCTGCACAAGCTCAACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAG 1	CCTTTGACGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGC 1	TCAGCGACGAGGACAGCCTGGCTCGCCGCCAGCGCACCAGGGACCAGTGGCTGAAGCAGA 9	CACCAGCAGCAGGTGGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCA 8	: ACCCCAACTGCTGCTTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCT 8	: AGGAGGTGAGTGAGGGGGGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGCAGCTTCG 7	GCATCCGCTGGAGGCCCTCACGCAAGAACGAGAAGGCCAAGATCTCCATCGACTCCATCC 	AGCTGCGTGGCGGCTCCAAGGGCCTGGTCCGCTTCTACCTGCACGACGACGACCACCGCTCCT 6	ACATTCTGCCCGTGGTGGAGCGGTGCATGGTGCCATGCAAGAGGGGATGCAGATGGTGA 5	CTCTTCCGCCTGAGGACCCAGGGCCGGATCCGGAGAGCAGGTGGCTTTTCTTGAGCGCCA 5	CGACAGTCCTCAGTCCCTCCATGATGGCTCCCCCGACAGCCGGCCCCCTTCCTGGCCCAG 4	. TGGACGGCCGGCCCAGCTGGTGATCCCAGCCAGTCCCAGCTTTCAGTTGCTGCCCCAC 3

```
Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                   RESULT
ABK1239
                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
   TXAXEXEXEXEXE
UXAXEXEXEXEXE
                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1501
                                                                                                                                                                                                                                                                                                                                    2101
                                                                                                                                                                                                                                                                                                                                                                                                                                        2152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1621
                                                                                                                                                                                                                                                                                                                                                                       2212
                                                                                                                                                                                                                                                                                                                                                                                                        2041
Human; lipid metabolism enzyme; LMM-6; immune system disorder; neurological disorder; developmental disorder; cancer; nootrop cell proliferative disorder; immunomodulator; neuroprotective; cytostatic; gene; ss.
                                                                                                                                                                                   ABK12390 standard; cDNA; 6551 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGCCCGACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCA 1611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACATGTATGCTTGGGTCCTGCAGGCTGGCTGCCGCTGCGAGGTGGAGGTGGACTGCTGGGATG 1551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGG 1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGGAAGAAGCTCCCAGCCAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACACACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGACGTCATTGAAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCC 1671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCCGACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTAAGAGGAAACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGACTGCAAGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGGAAGAAGCTCCCAGCCAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGTCCATCGAAAACCACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCAGTATCTGACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTCCATCGAAAACCACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCAGTATCTGACTG 1731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGACGTCATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACATGTATGCTTGGGTCCTGCAGGCTGGCTGCCGTGGAGGTGGACTGCTGGGATG 1440
                                                                                                                                                                                                                                                                                                     AGA
                                                                                                                                                                                                                                                                                                                                                                                                                          TGGGAAGCTTCTCCAGGCGCAAGAAGAAGGACCAGCAAGCTGAAGAAGGCGGCCAGCCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGGCCAGCAGACGCAATGGCCGCCTCGTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACAACTTCTCCGTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTAAGAGGAAACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACG
                                                                                  encoding
                                                                                                                                                                                                                                                                                                                                        AGGAGGGAGATGAGGGTCAGGACTCCCCGGGAGGCCGAGAGGCCGAGGGGCGACCCCGGCAGA
                                                                                                                                                                                                                                                                                                                                                                       AGGAGGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGGGGGCGACCCGGCAGA
                                                                                                                                                                                                                                                                                                                                                                                                        TGGGAAGCTTCTCCAGGCGCAAGAAGAAGGCCAGCCAGCTGAAGAAGGCGGCCAGCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGAGGAÇGTGGAGTCTGGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCTCGTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACAACTTCTCCGTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGACTGCAAGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTG
                                                                                                                                                                                                                                                                       2163
                                                                                                                    (first entry)
                                                                                   human lipid metabolism enzyme, LMM-6.
                                      cancer; nootropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1560
                                                                                                                                                                                                                                                                                                                                           2160
                                                                                                                                                                                                                                                                                                                                                                                                                                           2211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1500
                                                                                                                                                                                                                                                                                                                                                                                                            2100
                                                                                                                                                                                                                                                                                                                                                                            2271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2040
```

```
8
                                         Ś
                                                                                                                                                 Ś
                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   á
뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Sim:
Matches 1799;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present invention relates to the isolation of human lipid metabolism enzymes (LMM) designated LMM-1 to LMM-6, and the polynucleotide sequences encoding them. The LMM polypeptides, polynucleotides, agonists and antagonists are useful for diagnosing, polynucleotides, and antagonists are useful for diagnosing, polynucleotides, and antagonists are useful for diagnosing, and antagonists are useful for diagnosing, and antagonists are useful for diagnosing, 
                                                                                                                                                                                                          3579
                                                                                                                                                                                                                                                                                                                3519
                                                                                                                                                                                                                                                                                                                                                                 2141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of LMM, particularly immune system disorders (e.g. acquired immunodeficiency syndrome (AIDS), thymic hypoplasia, anaemia, asthma or Crohn's disease), neurological disorders (e.g. epilepsy, Huntington's disease, dementia or Parkinson's disease), developmental disorders (e.g. bown's syndrome) or cell proliferative disorders (e.g. bown's syndrome) are cell proliferative disorders (e.g. cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma or sarcoma). The present sequence encodes for human LMM-6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New lipid metabolism enzymes, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23-AUG-2000; 2000US-227429P.
08-SEP-2000; 2000US-231370P.
15-SEP-2000; 2000US-233212P.
29-SEP-2000; 2000US-236885P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22-AUG-2001; 2001WO-US26365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28-FEB-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200216597-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo
3699
                                                                                                        3639
                                                                                                                                                                                                                                                                                                                                                                                                                        3459
                                                                                                                                                                                                                                                                                                                                                                                                                                                2081 GAGCAAGGCTGAAGACGTGGAGTCTGGGGAGGATGCCGGGGCCAGCAGACGCAATGG 2140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 6551 BP; 1230 A; 2108 C; 2172 G; 1041 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      e
                                                 2321
                                                                                                                                                                                                                                                              2201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2002-280936/32.
                                                                                                                                                                                                                                                                                                                                           CCGCCTCGTCGTGGGAAGCTTCTCCAGGCGCAAGAAGAAGAGGCAGCAAGCTGAAGAAGACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NK,
CAAGTCCGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTC
                                CAAGTCCGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTC
                                                                                                     GACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACAC
                                                                                                                                      GACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACAC
                                                                                                                                                                                                          GGCCAGCGTGGAGGAGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGGGGG
                                                                                                                                                                                                                                                           GCCAGCGTGGAGGAGGGAGATGAGGGTCAGGACTCCCCGGGAGGCCCAGAGCCGAGGGGG
                                                                                                                                                                                                                                                                                                             CCGCCTCGTCGTGGGAAGCTTCTCCAGGCGCAAGAAGAAGGCCAGCAAGCTGAAGAAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                        GAGCAAGGCTGAAGACGTGGAGTCTGGGGAAGGATGCCGGGGCCAGCAGACGCAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  56; Page 120-122; 122pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      , Patterson C, Gar
Hafalia AJA, Ding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
1..4860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag= a
/product= "LMM-6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   34.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gandhi AR, Lu Y, Ya
ing L, Tribouley CM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1579;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Yao MG, I
M, Das D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 6551;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Baughn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3
                                                                                                                                                                                                                                                                                                                        3578
                                                                                                                                                                                                                                                                                                                                                                            2200
                                                                                                                                                                                                                                                                                                                                                                                                                             3518
        3758
                                                         2380
                                                                                                             3698
                                                                                                                                                                 2320
                                                                                                                                                                                                                  3638
                                                                                                                                                                                                                                                                      2260
```

```
뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                            3401
                                                                                    4719
                                                                                                                        3341
                                                                                                                                                                   4659
                                                                                                                                                                                                         3281
                                                                                                                                                                                                                                                 4599
                                                                                                                                                                                                                                                                                       3221
                                                                                                                                                                                                                                                                                                                                4539
                                                                                                                                                                                                                                                                                                                                                                      3161
                                                                                                                                                                                                                                                                                                                                                                                                              4479
                                                                                                                                                                                                                                                                                                                                                                                                                                                    3101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3879
                       GGCAGAGAAGAAGCCCTGTGCGAGTGCGGGCCCCCGCGTGTCCTGGACGGCCCCGGGCCTGC
                                                                                                       AGCCCCAGCCCAGGAGGGGCCCGGCAGCCCCCGAGGTAAGGCCCCAGCTTGCGGT
                                                                                                                                                                                                                                                                                     GACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTCCCGGAGCTGGTCCTGGGTACACGGGA
                                                                                                                                                                                                                                                                                                                                                               GCGGCCCCGGCCCGCCTCCGTTAGCCAGCGGATCCTGCGGCGCACGGCCAGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                 CCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCCGGCTCGCTGGACAGTCATGCTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGG
GGCAGAGAGAGCCCTGTGCGAGTGCGG-CCCTGCGTGTCCTGGACGGCCCCGGGCCTGC
                                                                              AGCCCCAGCCAGGAGGGGCCCGGCAGCCAGCCCCGAGGTAAGGCGCCAGCTGCGGT
                                                                                                                                                            CACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCGGGCCCGGACCTGCTCCGGA
                                                                                                                                                                                                                                             GACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTCCCCGGAGCTGGTTCCTGGGTACACGGGA
                                                                                                                                                                                                                                                                                                                         GCGGCCCCCGGCCCCTCCGTTAGCCAGCGGACCCTGCGGCGCACGGCCAGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGGATGGAAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATTGGGCTCCCTGTGGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGCGACTCCATGCTGGGGGACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGAT 2800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGA 2560
                                                                                                                                                                                                     CACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCGGGCCCCGGACCTGCTCCGGA
                                                                                                                                                                                                                                                                                                                                                                                                        CCTAAAAGGCCTCTTCCCGAGGCCCCAAAGCCCCGGCTCGCTGGACAGTCATGCTGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GECCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGCTTCCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGCTTCCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAACCCCACCTGGGAGAGACCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATTGGGCTCCCTGTGGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGCGACTCCATGCTGGGGGACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGGGCGGATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGT 2620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAACCAGCAGCAGCTCTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTA 2500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAACCCCACCTGGGAGAGCCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGT 4298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGGGCAGCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGGCAGCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCC 2740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTCAAGCCTGGGTGCATGTGCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACTCAAGCCTGGGTGCATGTGCCAGGGCGTGTTCAACCCCCAACTCGGAGGACCCCCTGCC 2680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGGGCGGATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGT 3998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAACCAGCAGCAGCTCTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTA 3878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTCAGCGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTT
                                                                                                                                                                                                   3340
  4837
                                                                              4778
                                                                                                                      3400
                                                                                                                                                            4718
                                                                                                                                                                                                                                             4658
                                                                                                                                                                                                                                                                                   3280
                                                                                                                                                                                                                                                                                                                           4598
                                                                                                                                                                                                                                                                                                                                                                                                          4538
                                                                                                                                                                                                                                                                                                                                                                                                                                                3160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        . 3938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3818
```

Š 밁 δõ

밁 Ş

The present invention describes oligonucleotide libraries for detecting messenger RNAs that populate a (sub-)transcriptome, where the (sub-)transcriptome comprises messenger RNAs transcribed from multiple

Example 1; SEQ ID 9442; 47pp; English.

٥

Ś

밁 Ś 밁 Ś 밁

밁

Ś B Ś 밁 Ś 밁 S B Ś 뭐 Ş 밁 Ś

```
RESULT 4
ABN36694
ID ABN3
AC ABN3
AC ABN3
AC ABN3
AC ABN3
AC ABN3
XX Huma
KW Spli
XX Spli
XX Homc
XX W W02(
XX W W02(
XX W W02)
PF 007-F
XX 20-F
PR 02-F
PR 02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                        New oligonucleotide libraries comprising oligonucleotides which selectively hybridize to mRNAs transcribed from a transcription a genome, useful for detecting tissue-, pathology-, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5018
                                                                                                                                                                   developmental-specific genes
                                                                                                                                                                                                                                                                                                                 WPI; 2002-257383/30.
                                                                                                                                                                                                                                                                                                                                                                       Shoshan A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28-JUL-2000; 2000US-221607P
02-MAY-2001; 2001US-287724P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-JUL-2001; 2001WO-IB01903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                07-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200210449-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; mouse; rat; splice transcript; detection; RNA transcript; splice variant; transcriptome; oligonucleotide library; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human spliced transcript detection oligonucleotide SEQ ID NO:9442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABN36694;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABN36694 standard; DNA; 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5258 ĊĠ 5259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3881 CG 3882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4838
                                                                                                                                                                                                                                                                                                                                                                                                                                  (COMP-) COMPUGEN INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGATCAGGAGTAAATCCCCCATGTTCTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGGAGTAAATCCCCCCATGTTCTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGGTCCCCCCCCTGGAGGGTGCCTGCAGGCAACCGGGGGGCCCTGCAGGGAGAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAGCAGCCCCGGGCCCGGGCTGACTCACTGGGGGCCCCCTGCTGTTGGCCTGGACCCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGGTCCCCCCGCTGGCCTGAGGGTGCCTGCAGGCAACCGGGGGCCCTGCAGGGAGAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCTATCCCGGGGAGAAGCAGAGAGGCCCCCAAGGGTCCTGGGGGCCTGGAGGCAGGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCTATCCCGGGGAGAAGCAGAGAGGCCCCCCAAGGGTCCTGGGGGCCTGGAGGCAGGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGGATGGCCGCCACATGCATGAAGTGTGTGGTGGGATCCTGCGCGCGTGAACACCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGCGGTAGCGGCTCCATGTCCTCGGACTCCAGCAGCCCAGACAGCCCGGGCATCCCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGGCGGTAGCGGCTCCATGTCCTCGGACTCCAGCAGCCCAGACAGCCCGGGCATCCCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGCAGCCCGGGCCCGGGCTGACTCACTGGGGGCCCCCCTGCTGTGGCCCTGGACCCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wasserman A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                       Mintz E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          βP
                                                                                                                                                                                                                                                                                                                                                                       Mintz L,
                                                                                                                                                                                                                                                                                                                                                                    Faigler
                                                                                                                                                                                                                              unit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3520
```

```
AAC30759
IID AAC3
XX
AC AAC3
XX
AC AAC3
XX
DT 06-C
XX
Huma
XX
Huma
XX
Home
XX

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CC several oligonucleotides, each capable of hybridising selectively to a CC set of messenger RNAs transcribed from a given transcription unit of the genome, which encodes one or more messenger RNA splice variants. CC The oligonucleotide libraries are useful for detecting mRNAs from a CC plantitatively characterising the corresponding transcriptome, and in CC detecting RNA transcripts and splice variants of human or animal CC transcriptomes. The libraries may also be used as specialised mini CC particular biological or pathological state, and so allowing the CC condition; to detect developmental specific genes such as those genes CC condition; to detect developmental specific pathological condition; to detect developmental specific genes and to detect RNA CC transcripts and splice variants of a transcriptome of a patient suffering CC condition; to detect developmental specific genes; and to detect RNA CC transcripts and splice variants of a transcriptome of a patient suffering CC oligonucleotide sequences from rats, humans and mice, which are used in the exemplification of the present invention.

CC N.B. The sequence data for this patent did not form part of the printed of a print/min/minliahal not recommends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 60 BP; 14 A; 15 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EP1033401-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human secreted protein 5' EST, SEQ ID NO: 34834.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-OCT-2000
                                The present sequence is one of a large number of 5' ESTs derived from mRNAs encoding secreted proteins. No ORF has yet been conclusively identified within the present sequence. The 5' ESTs were prepared from total human RNAs or polyA+ RNAs derived from 30 different tissues. EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-SEP-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAC30759 standard; cDNA; 233 BP
                                                                                                                                                                                       Claim 1; SEQ ID 34834; 71pp + CD-ROM; English.
                                                                                                                                                                                                                                                                                   New nucleic acid that is a 5' expressed sequence tag (5' EST) for obtaining cDNAs and genomic DNAs that correspond to 5'ESTs and fo
                                                                                                                                                                                                                                                                                                                                                                                  WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dumas Milne Edwards J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (GEST ) GENSET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-FEB-2000; 2000EP-0200610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000-500381/45.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5' EST; expressed sequence tag; secreted protein; cDNA isolation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                      forensic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           chromosome mapping; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0122487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.3%;
                                                                                                                                                                                                                                                         gene therapy and chromosome mapping procedures
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Duclert A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19 G; 12 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Giordano J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.4e-16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                (UTR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

sequences usually correspond mainly to the 3'

untranslated region

```
RESULT 6
ABK71572
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                  05-SEP-2000; 2000US-229747P.
05-SEP-2000; 2000US-229748P.
05-SEP-2000; 2000US-229750P.
05-SEP-2000; 2000US-229751P.
05-SEP-2000; 2000US-239558P.
06-SEP-2000; 2000US-239558P.
06-SEP-2000; 2000US-239515P.
06-SEP-2000; 2000US-239517P.
06-SEP-2000; 2000US-239517P.
06-SEP-2000; 2000US-239518P.
06-SEP-2000; 2000US-239519P.
06-SEP-2000; 2000US-239519P.
06-SEP-2000; 2000US-23959P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            libraries. Such ESTs are not well suited for isolating cDNA sequences derived from the 5' ends of mRNAs and even in those cases where longer cDNA sequences have been obtained, the full 5' UTR is rarely included. 5' ESTs are derived from mRNAs with intact 5' ends and can therefore be used to obtain full length cDNAs and genomic DNAs. 5' ESTs are also used in diagnostic, forensic, gene therapy and chromosome mapping procedures. They are used to obtain upstream regulatory sequences and to design
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         fungal infection; parasitic infections; developmental disorder; breast; endocrine disorder; metabolic disorder; neurological disorder; cervix; gastrointestinal disorder; transport disorder; gene therapy; kidney; adrenal gland; bone marrow; lung; ovary; pancreas; prostate; spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; dithp; diagnostic and therapeutic polynucleotide; gene; ss; bone; cell proliferative disorder; cancer; tumour; autoimmune disorder; brain; inflammatory disorder; viral infection; bacterial infection; seizure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABK71572 standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 233 BP; 41 A; 80 C; 72 G; 33 T; 7 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              expression and secretion vectors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of the mRNA because they are often obtained from oligo-dT primed cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200220754-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human dithp polynucleotide #38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-JUL-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABK71572;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29-AUG-2001; 2001WO-US27127.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                254 GGTGTGTGATGCGCTGCTGGCCCAGGCTACACCCCGACAAGGGACACCGGGGGCCC 309
               (INCY-) INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTGTGTGATGCGCTGCTGGCCCAGGCTACACCCCGACAAGGGACACCCGGGGGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           testis; thymus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                     2000US-231167P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u>.</u>.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 56; pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8.5e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 233;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 76
```

THE THE SECOND COLOR OF SECOND

```
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best |Local :
                                                                                                                                                                                                                                                                                                                                                                    Tourette syndrome; encephalitis; cytostatic; haemostatic; anaemia; mania; antiinflammatory; ophthalmalogical; dermatological; immunostimulatory; immunosuppressive; antibacterial; antipsoriatic; immunosuppressive; antibacterial; antipsoriatic; gene therapy; autoimmune disease; Huntington's disease; meningitis; demyelinating disease; peripheral neuropathy; congenital malformation; spinal cord injury; peripheral neuropathy; ischaemia; perception; multiple sclerosis; infarction; haemorrhage; schizophrenia; dementia; depression; panic disorder; learning disability; ALS; feeding disorder; hyperproliferative disorder; sleep pattern; cardovascular disorder; reproductive disorder; sleep pattern; cardovascular disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to human diagnostic and therapeutic (dithp) polymucleotides and their associated polypeptides (DITHP polypeptides). The sequences of the invention are used in the treatment and diagnosis of cell proliferative disorders (e.g. atherosclerosis, cirrhosis), cancers (e.g. tumours of the adrenal gland, bone, bone marrow, brain, breast, cervix, kidney, lung, ovary, pancreas, prostate, skin, spleen, testis or thymus), autoimmune/inflammatory disorders (e.g. asthma, bronchitis, psoriasis, osteoporosis), viral infections, bacterial infections, fungal infections, parasitic infections, developmental disorders (e.g. anaemia, pilepsy), seizure disorders (e.g. cerebral palsy, spina bifida), endocrine disorders (e.g. thrombosis, aneurysm), metabolic disorders (e.g. obesity, diabetes), neurological disorders (e.g. stroke, anaevical palsy, controlity, diabetes), neurological disorders (e.g. stroke, anaevical palsy, gastrointestinal disorders (e.g. stroke, anaevical palsy, gastrointestinal disorders (e.g. stroke, anaevical palsy, gastrointestinal disorders (e.g. stroke).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; secreted protein; immune disorder; antiallergic; antirheumatic; rheumatoid arthritis; breast neoplasia; breast cancer; antiarthritic; neurological disease; Alzheimer's disease; Parkinson's disease; trauma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amyotrophic lateral sclerosis, multiple sclerosis), gastrointestinal disorders (e.g. ulcerative colitis, lysinuria) and transport disorders (e.g. myotonic dystrophy, catatonia, peripheral neuropathy). Sequences ABK71535-ABK71809 represent human dithp polynucleotides of the inventic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2002-3035.
P-PSDB; ABG59980.
                                                                                                                                                                                                                                       Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAD33703 standard; cDNA; 896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 534 BP; 125 A; 154 C; 140 G; 115 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; Page 424-425; 686pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Marwaha R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Momiyama
                                                                                                                                                                                                                                                                                                                                                     reproductive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Jones AL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          334 TCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTC 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             isolated polynucleotide useful in diagnostics and therapeutics
                                                                                                                                                                                                                                       sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTC 1483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2002-383054/41.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R, Chen AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              , MINCHIN WIGHT RJ, GIETZEN D, Liu TF, Yap PE, Yu JY, Wright RJ, Gietzen D, Liu TF, Yap PE, MG, Bradley DL, Rohatgi SD, Harris B, Roseberr EH, Peralta CH, David MH, Panzer SR, Flores V, R. Chen AJ, Chang SC, Au AP, Inman RR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lincoln SE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                             disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein-encoding gene 12 cDNA clone HCOMM91, SEQ ID NO:22.
/product= "Human secreted protein"
/transl_except= (pos:791..793, aa:Xaa)
                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.9%; Score 44;
L00.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                 digestive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Altus CM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                 system
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dufour GE, Chalup MS, Hillm
tzen D, Liu TF, Yap PE, Dah
SD, Harris B, Roseberry AM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 534;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hillman JL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Daffo A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0,
```

유정

FTT FTT XXX

```
XXX
                                                                                                                                       밁
                                                               AAQ87044/c
                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                            RESULT 8
                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                      4561 TCTGCCCCCACCCACGCTTGC 4581
                                                                                                                                                                                                                                                                        Sequence 896 BP; 200 A; 213 C; 297 G; 180 T; 6 other;
                                                                                                                                                                                                                                                                                                                                                        21 genes, based on the tissues in which they are most highly expressed, and include developing products for the diagnosis or treatment of immune or autoimmune diseases e.g. AIDS (acquired immune deficiency syndrome), asthma, anaemia and rheumatoid arthritis, breast neoplasia and breast cancer, neurological diseases e.g. Alzheimer's disease, Parkinson's disease, Huntington's disease, Toxrette syndrome, meningitis, demyelinating disease, peripheral neuropathies, neoplasia, trauma, congenital malformations, spinal cord injuries, toxic neuropathies induced by neurotoxins, peripheral neuropathies, multiple sclerosis, ischaemia and infarction, haemorrhages, schizophrenia, mania dementia, depression, panic disorders in feeding, sleep patterns, balance and perception, encephalitis, disorders in cardiovascular, neural/
                                             AAQ87044 standard; cDNA; 1365 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAD33692-AAD33736 represent cDNAs corresponding to 21 human secreted protein genes, and AAE21191-AAE21235 represent the proteins they encode. AAE21236-AAE212360 represent human secreted protein fragments. The genes and their corresponding secreted proteins are useful for preventing, treating or ameliorating medical conditions, e.g., by protein or gene therapy. Pathological conditions can be diagnosed by determining the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               An isolated nucleic acid molecule (I) comprising a polynucleotide which encodes a polypeptide useful in the diagnosis and treatment of disorders e.g. immune disorders -
                                                                                                                                                                                                                                                                                                                         sensory, reproductive and digestive systems, behavioural disorders and hyperproliferative disorder. The present sequence represents a human
                                                                                                                                       823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         amount of the new protein in a sample or by determining the presence of mutations in the new genes. Specific uses are described for each of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Page 447; 534pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P-PSDB; AAE21202.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-AUG-2000; 2000US-226282P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17-JAN-2001; 2001WO-US01435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200216390-A1
                                                                                                                                                                                                                         Local
                                                                                                                                     TCTGCCCCCACCCACGCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2002-304113/34.
                                                                                                                                                                                                                       Similarity 100.0%;
                                                                                                                                                                                                                                                                                                             protein-encoding cDNA of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wei P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Komatsoulis GA,
                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag= b
635..814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "Xaa equals any of the naturally occurring L-amino acids" 542..634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product= "Human mature secreted protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ebner R,
                                                                                                                                                                                                                                     0.5%; Score 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                   843
                                                                                                                                                                                                      ٥,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Baker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Duan
                                                                                                                                                                                                                         Pred. No.
                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Shi Y, Choi
                                                                                                                                                                                                                                       DB 24;
                                                                                                                                                                                                      ;
                                                                                                                                                                                                                                       Length 896;
                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Soppet
oi GH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fiscella
                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Olsen HS;
                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                      0
```

```
RESULT 9
AAQ85772/c
밁
                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pig
                                                                                                                                                                                                                                                                                                                                                                                                    This sequence encoding pig interleukin-10 may be expressed recombinantly in swine cord blood haematopoietic stem cells. These engineered stem cells may then be introduced into a recipient animal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO9513363-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sus scrofa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    haematopoiesis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Swine; interleukin-10; cytokine; lymphokine; protein; stem cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10-DEC-1995 (first entry)
                                                                                                                                                                                                                                                                  3334 CTCCGGAAGCCCCAGCCCAGG 3354
                                                                                                                                                                                                                                                                                                                                                                    so that the stem cells express IL-10. These recombinant cells may be used in the induction of immunological tolerance, tissue transplantation and reconstitution of the immune system without
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New purified haematopoietic stem cells - isolated from swine cord blood, used in transplantation, inducing immune tolerance and immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10-NOV-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-MAY-1995
                                                                                                                                                                                                                                             1066
                                                                                                                                                                                                                                                                                                                                  Sequence 1365 BP; 386 A; 322 C; 313 G; 344 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 45; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      system reconstitution
                                                                                                                                                                                                                                                                                                                                                        having to use broad spectrum immune suppressants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (GEHO ) GEN HOSPITAL CORP
           W09506657-A
                                                                          Sus scrofa.
                                                                                               Interleukin-10; cytokine; immune response; ss
                                                                                                                    Porcine interleukin-10 (IL-10) cDNA.
                                                                                                                                          09-OCT-1995
                                                                                                                                                                 AAQ85772;
                                                                                                                                                                                     AAQ85772 standard; cDNA; 1365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      interleukin-10 cDNA
                                                                                                                                                                                                                                            CTCCGGAAGCCCCAGCCCAGG 1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1995-194083/25.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DW,
                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAR73018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Le GUERN CA,
                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93US-0150739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   94WO-US12522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers 73..651
                             Location/Qualifiers
73..600
/*tag= a
                                                                                                                                                                                                                                                                                     100.0%; **
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sachs DH,
                                                                                                                                                                                                                                                                                                             Score 21; DB 16; Length 1365;
                                                                                                                                                                                                                                                                                                   Pred.
                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                     No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Leguern CA;
                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                           0
```

```
RESULT 10
ABK84021
ID ABK844021
AC ABK84
XX ABK84
XX Human
DE Human
XX Fineum
XX Gardi
KW Crohn
KW Grohn
XX Grohn
XX Homo
XX Hom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; ss; granulocytic cell; DNA chip; bacterial infection; viral infection; parasitic infection; protozoal infection; fungal infection; sterile inflammatory disease; psoriasis; rheumatoid arthritis; glomerulonephritis; asthma; thrombosis; cardiac reperfusion injury; renal reperfusion injury; ARDS; cardiac reperfusion injury; ARDS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1365 BP; 386 A; 322 C; 313 G; 344 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mouse SQ. The pig protein contains one potential N-linked glycosylation site at Asn 130, 5 Cys residues, and 9 Mets. The calc. mol. wt. of the porcine protein in 19,921 daltons. The pig sequence shows a gap of four AAs in posn. 20-23,as compared with the human an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAQ85772 excludes the poly A tail of porcine IL-10 cDNA. At the nt level, the SQ is 82% homologous with the human IL-10 SQ, and 75% homologous with the mouse IL-10 SQ. At the AA level the porcine peptide is 74% homologous with human and 68% homologous with the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1; Page 33-35; 47pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      graft versus host disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New DNA encoding porcine interleukin 10 used to induce immunological tolerance,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1995-115396/15.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Blancho GJF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            09-MAR-1995
                                                                                                                                                                                                                                                                                                                                                                                                Crohn's disease; ulcerative colitis; periodontal disea
granulocyte activation; chronic inflammation; allergy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABK84021 standard; cDNA; 4242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1066 CTCCGGAAGCCCCAGCCCAGG 1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3334 CTCCGGAAGCCCCAGCCCAGG 3354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (GEHO ) GEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human cDNA differentially expressed in granulocytic cells #592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABK84021;
                           Beazer-Barclay Y,
                                                                                                                                03-OCT-2000; 2000US-237189P
                                                                                                                                                                                     03-OCT-2001; 2001WO-US30821
                                                                                                                                                                                                                                          11-APR-2002
                                                                                                                                                                                                                                                                                               WO200228999-A2
                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                              (GENE-) GENE LOGIC INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mouse sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     respiratory distress syndrome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR71471.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HOSPITAL CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Le GUERN CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     93US-0114072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94WO-US09361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0.5%; but
100.0%; Pre
                              Weissman
                              SM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sachs DH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΒP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                              Yamaga S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              inflammatory bowel disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sykes M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB
42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and related vectors esp. for controlling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16;
                                 Vockley J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 1365;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Leguern CA;
                                                                                                                                                                                                                                                                                                                                                                                                                                  disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                  ABK845:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                1349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             chronic) in a tissue, an allergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease, by detecting the level of expression in a sample of the tissue of gene(s) from ds, where the level of expression of the gene is indicative of inflammation; (4) treating (M5) an inflammation (especially chronic) or in a tissue, an allergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease, by contacting a tissue having from distance with an agent that modulates the expression of gene(s) from Gs in the tissue. M is useful for detecting GA; M3 is useful for modulating GA; M3 is useful for screening an agent capable of modulating GCA preferably in an inflammation in a tissue; M4 is useful for detecting an inflammation (especially chronic) in a tissue, an allergic response in a subject.
                  rheumatoid arthritis; glomerulonephritis; asthma; thrombosis; cardiac reperfusion injury; renal reperfusion injury; ARDS;
                                                                                                                                                                    Human cDNA differentially expressed in granulocytic cells #1103
                                                                                                                                                                                                                                                                                                                     ABK84532 standard; cDNA; 4242 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1661 CCCAGTGATCCTGTCCATCGA 1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 4242 BP; 1116 A; 1097 C; 1127 G; 902 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of the printed specification, but was obtained in electronic format directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease (e.g. psoriasis, rheumatoid arthritis, glomerulonephritis, asthma, thrombosis, cardiac reperfusion injury, ARDS, adult respiratory distress syndrome, inflammatory bowel disease, Crohn's disease, ulcerative colitis, periodontal disease, also bacterial infection, viral infection, parasitic infection, protozoal infection, fungal infection and MS is useful for treating one of the above conditions. The present sequence represents a gene differentially expressed in granulocytes. Note: The sequence data for this patent did not form part of the more of the sequence data for this patent did not form part of the more of the sequence data for this patent did not form part of the more of the sequence data for this patent did not form part of the more of the conditions.
                                                                   fungal infection; sterile inflammatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 for an agent capable of modulating GCA or an inflammation (especially chronic) in a tissue, an allergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease using the gene expression profile; (3) detecting (M4) an inflammation (especially
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GC, where differential expression of Gs is indicative of GCA. Also included are modulating (M2) GA by contacting GC with an that alters the expression of at least one gene in Gs; (2) so
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Detecting granulocyte activation by detecting differential expression of genes associated with granulocyte activation, which serves as diagnostic markers that is useful for monitoring disease states and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (GCA), by detecting the level of expression of gene(s) DNA chip analysis as given in the specification, and co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          !\p.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the expression level to an expression level in an unactivated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to detecting (M1) granulocyte (GC) activation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; SEQ ID No 592; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2002-435328/46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCAGTGATCCTGTCCATCGA 1369
respiratory
                                                                                        ; ss; granulocytic cell; DNA chip; bacterial infection; infection; parasitic infection; protozoal infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0.5%;
syndrome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ,.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          thrombosis, cardiac reperfusion injury, renal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                         protozoal infection;
y disease; psoriasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 24; Length 4242;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and comparing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GC with an agent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Gs)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (2) screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              identified by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (M3)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
```

```
Ş
                                                                                                                                       cc chronic) in a tissue, an allergic response in a subject, exposure of a consideration of a pathogen or sterile inflammatory disease, by detecting the clevel of expression in a sample of the tissue of gene(s) from Gs, where the level of expression of the gene is indicative of inflammation; consideration (MS) an inflammation (especially chronic) or in a tissue, an altergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease, by contacting a tissue having inflammation with an agent that modulates the expression of gene(s) from GS in the tissue. M1 is useful for detecting GA; M2 is useful for modulating GA; M3 is useful for screening an agent capable of modulating GA preferably in an inflammation in a tissue, M4 is useful for detecting an inflammation (especially chronic) in a tissue, an allergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease (e.g. psoriasis, reduced arthritis, intervalse).
                                                  Matches
                                                                       Query Match
Best Local
1661 CCCAGTGATCCTGTCCATCGA 1681
                                                                                                                                                                                                                                           glomerulonephritis, asthma, thrombosis, cardiac reperfusion injury, 1 reperfusion injury, ARDS, adult respiratory distress syndrome, inflammatory bowel disease, Crohn's disease, ulcerative colitis, periodontal disease; also bacterial infection, viral infection, periodontal disease; also bacterial infection, viral infection, protozoal infection, fungal infection and M5 is useful for treating one of the above conditions. The present sequence represents a gene differentially expressed in granulocytes. Note: The sequence data for this patent did not form part
                                                                                                                                     Sequence 4242 BP; 1116 A; 1097 C; 1127 G; 902 T; 0 other;
                                                                                                                                                                                                     of the printed specification, but was obtained in electronic format directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               chronic) in a tissue, an allergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease using the gene expression profile; (3) detecting (M4) an inflammation (especially
                                                                                                                                                                           ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GC, where differential expression of Gs is indicative of GCA. Also included are modulating (M2) GA by contacting GC with an agent that alters the expression of at least one gene in Gs; (2) screening for an agent capable of modulating GCA or an inflammation (especial)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Detecting granulocyte activation by detecting differential expression of genes associated with granulocyte activation, which serves as diagnostic markers that is useful for monitoring disease states and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA chip analysis as given in the specification, and comparin
the expression level to an expression level in an unactivated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to detecting (M1) granulocyte (GC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; SEQ ID No 1103; 114pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2002-435328/46.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Beazer-Barclay Y, Weissman SM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03-OCT-2000; 2000US-237189P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             03-OCT-2001; 2001WO-US30821.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             granulocyte activation; chronic inflammation; allergy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Crohn's disease; ulcerative colitis; periodontal disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (GENE-) GENE LOGIC INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            by detecting the level of expression of gene(s)
                                                                     Similarity
                                               Conservative
                                                                  100.0%;
                                                                                            0.5%;
                                             <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                              thrombosis, cardiac reperfusion injury, renal
                                                                  Score 21;
Pred. No.
                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Yamaga S,
                                                                  DB
40;
                                                                                        24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Vockley J;
                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            differential expression
on, which serves as
                                                                                     Length 4242;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and comparing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (2) screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Gs)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    activation
                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            identified by
                                             Gaps
```

(M3)

밁

1349

CCCAGTGATCCTGTCCATCGA 1369

```
RESULT 12
ABK84127
ID ABK84
GC, where differential expression of Gs is indicative of GCA.

Also included are modulating (M2) GA by contacting GC with an agent that alters the expression of at least one gene in Gs; (2) screening (M3) Cf that alters the expression of at least one gene in Gs; (2) screening (M3) Cf corn an agent capable of modulating GCA or an inflammation (especially Cf chronic) in a tissue, an allergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease using the Chronic) in a tissue, an allergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease, by detecting the Clevel of expression in a sample of the tissue of gene(s) from Gs, where the level of expression of the gene is indicative of inflammation; (4) treating (M5) an inflammation (especially chronic) or in a tissue, an allergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease, by contacting a tissue having the confidence of the tissue of the subject to a pathogen or sterile inflammatory disease, by contacting a tissue having the confidence of the transfer of the subject to a pathogen or sterile inflammatory disease, by contacting a tissue having the confidence of the transfer of the subject having the confidence of the transfer of the subject having the confidence of the transfer of the subject having the confidence of the subject to a pathogen or sterile inflammatory disease, by contacting a tissue having the confidence of the transfer of the subject having the confidence of th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABK84127 standard; cDNA; 4519
                inflammation with an agent that modulates the expression of gene(s) from Gs in the tissue. M1 is useful for detecting GCA, M2 is useful for modulating GA; M3 is useful for screening an agent capable of modulating GCA preferably in an inflammation in a tissue; M4 is useful for detecting an inflammation (especially chronic) in a tissue, an allergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease (e.g. psoriasis, rheumatoid arthritis, glomerulonephritis, asthma, thrombosis, cardiac reperfusion injury, ARDS, adult respiratory distress syndrome, inflammatory bowel disease, Crohn's disease, ulcerative colitis, periodontal disease; also batterial infection, viral infection, and Ms is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Detecting granulocyte activation by detecting differential expression of genes associated with granulocyte activation, which serves as diagnostic markers that is useful for monitoring disease states and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            adult respiratory distress syndrome; inflammatory bowel disease; Crohn's disease; ulcerative colitis; periodontal disease; granulocyte activation; chronic inflammation; allergy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABK84127;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            03-OCT-2001; 2001WO-US30821.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         granulocyte activation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rheumatoid arthritis; glomerulonephritis; asthma; thrombosis; cardiac reperfusion injury; renal reperfusion injury; ARDS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human cDNA differentially expressed in granulocytic cells #698.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 1; SEQ ID No 698; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2002-435328/46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-OCT-2000; 2000US-237189P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200228999-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              viral infection; parasitic infection; protozoal infection; fungal infection; sterile inflammatory disease; psoriasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (GENE-) GENE LOGIC INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A), by detecting the level of expression of gene(s) (Gs) id chip analysis as given in the specification, and comparing expression level to an expression level in an unactivated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     invention relates to detecting (M1) granulocyte (GC) activation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  granulocytic cell; DNA chip; bacterial infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Weissman
protozoal infection, fungal infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      , MS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Yamaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S, Vockley J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              identified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              γď
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAS91012
The invention relates to isolated polynucleotide (I) and CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome CC and gene mapping, and in recombinant production of (II). The company of identifying expressed genes. (I) is useful in gene therapy techniques (II) (II) is useful for generating antibodies against it, detecting or CC (II). (II) is useful for generating antibodies against it, detecting or CC quantitating a polypeptide in tissue, as molecular weight markers and as CC quantitating a polypeptide in tissue, as molecular weight markers and as CC disorders involving aberrant protein expression or biological activity. CC The polypeptide and polymucleotide sequences have applications in CC diagnostics, forensics, gene mapping, identification of mutations CC responsible for genetic disorders or other traits to assess biodiversity and CC and to produce other types of data and products dependent on DNA and CC amino acid sequences. AAS64197-AAS94564 represent novel human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       useful for treating one of the above conditions. The present sequence represents a gene differentially expressed in granul Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1136 CTCGTCCCACAACACCTACCT 1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1436 CTCGTCCCACAACACCTACCT 1456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 4519 BP; 1033 A; 1314 C; 1301 G; 871 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                               New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-MAR-2001; 2001WO-US08631.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; chromosome mapping; gene mapping; gene therapy; forensic food supplement; medical imaging; diagnostic; genetic disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA encoding novel human diagnostic protein #26816.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAS91012;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAS91012 standard; cDNA; 324 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                           Claim 1; SEQ ID No 26816; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2001-639362/73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0540217.
2000US-0649167.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 21; DB 24; Length 4519; Pred. No. 40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      granulocytes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  forensic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
```

SSSSSSS

밁 Ş

```
RESULT 14
ABK647333/c
ID ABK6477
XX ABK647
XX ABK647
XX Human;
XX 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
from the subject that are differentially regulated compared to normal prostate cells. (II) comprises preparing a first gene expression profile of BBH cells or BBH-like cell population, exposing the cells to the agent, preparing a second gene expression profile of the agent exposed cells, and comparing the first and second gene expression profiles.

(I) is useful for diagnosing the onset or progression of BBH. (II) is useful for diagnosing the onset or progression of BBH. (II) is useful for identifying an agent that modulates the onset or progression of BBH. The methods are useful to present information identifying the expression level of genes given in the specification in the tissue or cells to the level of genes given in the specification in the tissue or cells to the level of expression of gene in the database, and displaying the expression levels of at least one gene in the tissue or cell sample compared to the expression level in BBH. Agents using (II) are useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to a method of diagnosing (I) the onset or progression of benign prostatic hyperplasia (BPH), or screening (II) for or identifying an agent that modulates the onset or progression of BPH. The method is based on changes in gene expression in BPH tissue isolated from patients exhibiting different clinical states of prostate hyperplasia as compared to normal prostate tissue. (I) comprises
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Page 339; 444pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Identifying drugs for and diagnosing benign prostatic hyperplasia, by detecting expression levels of one or more genes in prostate cells from patient that are differentially regulated compared to normal prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2002-257476/30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Munger WE, Kulkarni P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                07-AUG-2000; 2000US-223323P
05-JUN-2001; 2001US-0873319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-AUG-2001; 2001WO-US24708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human benign prostatic hyperplasia gene #628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2181 GGCAGCAAGCTGAAGAAGGC 2200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 324 BP; 97 A; 61 C; 79 G; 87 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 diagnostic coding sequences of the invention.

Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 detecting the expression levels of one or more genes in prostate cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WQ200212440-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; benign prostatic hyperplasia; BPH; prostate cancer; gene; ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABK64733 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABK64733;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4-FEB-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGCAGCAAGCTGAAGAAGGC 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JAPAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENE LOGIC INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOBACCO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA; 426 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Getzenberg RH, Waga I,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 20;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.3e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 324;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Yamamoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
```

```
RESULT 15
ABL66602/c
ID ABL666
XX ABL666
XX ABL666
XX Lung c
XX Human;
XX Stomac
XX St
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S & & & &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                     20-SEP-2000;

22-SEP-2000;

22-SEP-2000;

25-SEP-2000;

25-SEP-2000;

25-SEP-2000;

25-SEP-2000;

25-SEP-2000;

25-SEP-2000;

26-SEP-2000;

27-SEP-2000;

27-SEP-2000;

27-SEP-2000;

27-SEP-2000;

27-SEP-2000;

27-SEP-2000;

27-SEP-2000;

28-SEP-2000;

28-SEP-2000;

28-SEP-2000;

28-SEP-2000;

28-SEP-2000;

29-SEP-2000;

29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3044 CATCTTCGTGCATGTGGCTG 3063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-MAY-2001; 2001WO-US10838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     stomach; lung; prostate; pancreas; carcinoma; antitumour; cancerous;
cytostatic; gene therapy; antineoplastic; Wilm's tumour; adenocarcinoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; cancer; colon; breast; ovary; oesophagus; kidney; thyroid; stomach; lung; prostate; pancreas; carcinoma; antitumour; cancero
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABL66602;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 426 BP; 149 A; 78 C; 87 G; 112 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   treating BPH or prostate cancer. ABK64106-ABK64860 represent human benign prostatic hyperplasia gene sequences of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lung cancer related gene sequence SEQ ID NO:4939.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABL66602 standard; DNA; 426 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     234 CATCTTCGTGCATGTGGCTG 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; 2000US-234509P.
; 2000US-234567P.
; 2000US-234923P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                     2000US
                                                                                                                             2000US-237173P.
                                                                                                                                                                                                   2000US-236842P
                                                                                                                                                                                                                             2000US-236111P.
                                                                                                                                                                                                                                                  2000US-236034P.
2000US-236109P.
                                                                                                                                                                                                                                                                                                    2000US-236032P.
2000US-236033P.
                                                                                                                                                                                                                                                                                                                                                     2000US-236028P
                                                                                                                                                                                                                                                                                                                                                                             2000US-235863P
                                                                                                                                                                                                                                                                                                                                                                                                       2000US-235840P
                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-235711P.
2000US-235720P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-235638P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-235637P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-235280P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-235134P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-235082P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-235077P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-234924P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-234052P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-233617P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 20;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.3e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 426;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
```

```
RESERVED TO THE SECOND CONTRACTOR OF THE SECON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention describes a method (M1) for screening for an CC anti-neoplastic agent. The method involves exposing cells to a chemical agent to be tested for anti-neoplastic activity, determining a change in CC expression of at least one gene (I) of a signature gene set, where (I) CC comprises a sequence (S) selected from 8447 sequences (given in ABL6164 to ABL70110), or is at least 95% identical to (S), where a change in CC expression is indicative of anti-neoplastic activity. (I) has cytostatic CC activity and can be used in gene therapy. M1 can be used for screening CC an anti-neoplastic agent, and can be used for producing a product which c1 is the data collected with respect to the anti-neoplastic agent as a CC result of M1, and the data is sufficient to convey the chemical CC escuptageal, ovarian, kidney, prostate or pancreatic cancer, c2 adenocarcinoma, carcinoma, clear cell cancer, infiltrating ductal cancer, infiltrating ductal cancer, c2 carcinoma, papillary carcinoma and Wilm's tumour.
                                                                                                                                                                                                                                  á
Search completed: March 28, 2003, 22:25:35
Job time: 1104 secs
                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        03-OCT-2000;
03-OCT-2000;
03-OCT-2000;
03-OCT-2000;
01-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Screening for anti-neoplastic agent involves exposing cells to a chemical agent to be tested for anti-neoplastic activity, and determining a change in expression of a gene of a signature gene set
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Young PE, Augustus M, Soppet DR, Weaver Z;
                                                                                                                                                                                                                                      3044 CATCTTCGTGCATGTGGCTG 3063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 426 BP; 149 A; 78 C; 87 G; 112 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; SEQ ID 4939; 44pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2002-188264/24.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (AVAL-) AVALON PHARM.
                                                                                                                                                                                                                                                                                                               Match 100.0%; P Local Similarity 100.0%; P
                                                                                                                                                             CATCTTCGTGCATGTGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; 2000US-237598P.
; 2000US-237604P.
; 2000US-237606P.
; 2000US-237606P.
; 2000US-244867P.
; 2000US-244867P.
                                                                                                                                                                                                                                                                                                                       0.4%; Score 20; DB 24; Length 426;
100.0%; Pred. No. 1.3e+02;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Carter KC,
                                                                                                                                                             215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ebner R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Endress G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Horrigan S;
                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                           0
```

•				
,				
				P.
		*		

BQ946757 AGENCOURT BQ960462 AGENCOURT BE988680 UI-M-CG0p BQ571436 UI-M-FC0-BM950299 UI-M-B109 AZ503328 1M0343105 BB624082 BB624082 AZ805180 2M0066013 BB652903 BB652903 BB652903 BB652903 BB652903 BB652903 BB652903 BB652903

BM932679

UI-M-CGOp

BI756147 AQ741196 BF463298 BE244972 BE255354

603030048 HS_2273_A UI-M-CGOP BB430723 602395735

TCBAP3E16

BG299246 BB430723

```
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OM nucleic -
                                                       Result
No.
                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                              Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                       Word size
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Listing first 45
                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying
                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                        Score
                                                                                                                                                                                                                                                                                                                                                                                             seq length: 0 seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nucleic search, using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  March 28, 2003, 21:31:59 ; Search time 6815 Seconds (without alignments) 11014.832 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OLIGO_NUC Gapop 60.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-927-112-1
4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 tcgcgatctagaactagtgg.....ggtaacggggcccagccccg 4635
                                                                                                                                 16154066 seqs, 8097743376
                                                         Match
                                                                                                                                                                                                                                                                                                                                                              EST:*
12.7
11.8
11.0
10.2
7.9
7.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                  em_htc:*
gb_est1:*
gb_est2:*
gb_htc:*
                                                                                                                                                              gb gss:*
em gss hum:*
em gss inv:*
em gss vrt:*
em gss fun:*
em gss fun:*
em gss mam:*
                                                                                                                                                                                                                                           gb_est3:*
gb_est4:*
gb_est5:*
                                                                                                                                                                                                                                                                                                      em
                                                                                                                                                                                                                                                                                                                                    em_estin: *
                                                                                                                                                                                                                                                                                                                                                       em_estba:*
                                                                                                                                em_gss_mus:*
em_gss_other:*
em_gss_pro:*
em_gss_rod:*
                                                                                                                                                                                                                                                                                                             em_estpl:*
                                                                                                                                                                                                                                                                                                                      em_estov:*
                                                                                                                                                                                                                                                                                                                             em_estmu:*
                                                                                                                                                                                                                                                                                                                                            em_esthum:*
                                                                                                                                                                                                                           em_estfun:*
em_estom:*
                                                         Length DB
                                                                                                                                                                                                                                                                                                     estro:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                        chosen
                                                         ij
                                                                                                                                                                                                                                                                                                                                                                                summaries
        BG472146
BE255177
BG394794
BM903836
BE908459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sw model
                                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                        parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         residues
                                                                                                                                                                                                                                                                                                                                                                                                                         32308132
BG472146 602513869
BE255177 601115717
BG394794 602457129
BM903836 AGENCOURT
BE908459 601503091
BG819793 602781835
                                                         Description
                                                                                                                  REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                      RESULT 1
BG472146
LOCUS
                                                                                                                                                             SOURCE
ORGANISM
                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     O
                                                                                                    COMMENT
                                                                                                                                                                              KEYWORDS
                                                                                                                                                                                     VERSION
                                                                                                                                                                                                                                                                                                        00000
                                                                                                                                                                                                                                                                                                                                                                                                          9
10
11
11
12
13
15
                                                                                                                                                                                                                                                                                        BG4772146 759 bp mRNA linear EST 21-MAR-20 602513869F1 NIH MGC_16 Homo sapiens cDNA clone IMAGE:4645721 5', mRNA sequence.

BG472146
                                                                                  Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                           NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, M
Unpublished (1999)
                                                                                                                                                                              BG472146.1 GI:13404520 EST.
                                  CDNA Library Preparation: Ling Hong/Rubin Laboratory CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: image.llnl. Plate: LLCM1419 row: i column: 18
                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 759)
                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                        BB283947
BM932679
BB642639
AV361753
BB047756
BG946330
BI737630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BB430723
BG299246
BG946757
BQ946762
BE98680
BQ571436
BM950299
AZ503328
BB624082
AZ805180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BE244972
BE255354
BI756147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BB652903
BG955666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AQ741196
BF463298
                                                                                                                                                                                                                                                                                                                                 BF877125
BI816577
BQ243736
                                                                                                                                                                                                                                                                                                                                                                                          BH089788
BG945796
BG682479
                                                                                                                                                                                                                                                                                                                 BF399557
                                                                                                                                                                                                                                                                 ALIGNMENTS
                                                                                                                      Mammalian Gene Collection (MGC)
```

BF877125 IL3-ET011
BF816577 1031046D0
BQ243736 TaE15010A
AV621575 AV621575
BF399557 UI-R-CR1-AV992820 AV392820
AA892330 EST196133

AZ599264 1M0414D02

BB642639 BB642639
AV361753 AV361753
BB047756
BB047756
BG946330 PM3-KT004
BI737630 60358539
BH089798 RPCI-24-3
BG945796 PM3-KT004
BG682479 602623577
AW889403 RC6-NT002
BF944313 RC5-NN116
BF804488 QV4-C1015
F00147 HSB35B091 S

linear

EST 21-MAR-2001

759 561 1016 1002 436 663

FEATURES

quality sequence stop: 683

.gov

organism="Homo sapiens" Location/Qualifiers

source

REFERENCE

```
RESULT 2
BE255177
                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 587
                                                                                            ORGANI SM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCTGGGCGGCCCCGGCCCGGCCCTTAGCCAGCGGATCCTGCGGCGCACGGCCAG 3214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACGCTGGCCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGA 3034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCGGAAGCCCCAGCCCAGGAGGGGCCCGGCAGCCGCAGCCCCCGAG 3381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCGGGGCCCGGACCTGC 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCGGGCCCGGACCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCCCCGACCAAGAGCCCAGAAGCCCGCGCCCGCAGGCTTCCCCGGAGCTGGTCCTGGGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCCCCGACCAAGAGCCAGAAGCCGGGGCCGCAGGGGCTTCCCGGAGCTGGTCCTGGGTAC 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCTGGGCGGCCCGGCCCTCCGTTAGCCAGCGGATCCTGCGGCGCACGGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTGGTCCGCTTCCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAG 2974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGGTTCAACCCCACCTGGAGAGACCCCTGGTTTTCATGGTGCACATGCCGGAGATCGC 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGGTTCAACCCCACCTGGGAGGACACCCTGGTTTTCATGGTGCACATGCCGGAGATCGC 2914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGAGATCATTGGGCTCCCTGTGGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAA 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGAGATCATTGGGCTCCCTGTGGACTGCAGCAGGAGCAGACCCGCGTGGTGGACGACAA 2854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGC 3154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGAGGCCTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGAGGCCTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGC 3094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACGCTGGCCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGA 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTGGTCCGCTTCCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      587;
        Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                Eukaryota;
                                                                                        Homo sapiens
                                                                                                                                                                                                              BE255177.1 GI:9125614
                                                                                                                                                                                                                                                               BE255177
                                                                                                                                                                                                                                                                                              mRNA sequence.
                                                                                                                                                                                                                                                                                                                                 601115717F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3356069 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="taxon:9606"
/clone="IMAGE:4645721"
/clone=lib="NIH MGC Li6"
/tissue_type="retinoblastoma"
/lab host="PH108 (phage-resistant)"
/l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12.7%;
    Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 587; DB 12; Pred. No. 8e-260;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                      mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 759;
                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                 EST 13-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
```

Ş 밁 Ş 밁 Ş 멍 Ş Ş

밁

á

В

BASE C

뮍 Ş В Ś 밁 Ś 밁 Ş 밁

SOURCE

VERSION

Locus

```
밁
                                                                                                                                                  밁
                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                       Š
                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 548;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3068
                                                                                                                                                                                                                                                                                                                                                                                    3188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2888 TTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGTCTGGGACCACGATCC 2947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2828 GGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCCACCTGGGAGGAGACCCTGGT 2887
                                                                                                                                                                                                                                                                                                         374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2948 CATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGCCAGGCTA 3007
       494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                134 CATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGCCAGGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14 GGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGGAGACCCTGGT 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCATGTGGCTGTCAG
TGTGGTGCCCCCCGGGCCCGGACCTGCTCCGGAAGCCCCAGCCCAGGAGGGGCCCGGCAG
                                                               TGTGGTGCCCCCCGGGCCCGGACCTGCTCCGGAAGCCCCAGCCCAGGAGGGGCCCCGGCAG 3367
                                                                                                                                                                                                                          GGGCTTCCCGGAGCTGGTCCTGGGTACACGGGACACAGGCTCCAAGGGGGTGGCAGACGA 3307
                                                                                                                                                                                                                                                                                                     CCAGCGGATCCTGCGGCGCACGACCAGCCCCGACCAAGAGCCAGAAGCCGGGCCGCAG
                                                                                                                                                                                                                                                                                                                                                                                CCAGCGGATCCTGCGGCGCACGGCCCAGCGACCAAGAGCCAGAAGCCGGGCCGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCCCGGGCCCGGCCCTCCGTTAG 3187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCATGTGGCTGTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGTCTGGGACCACGATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 (bases 1 to 561)
NIH-WGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             found through the I.M.A.G.E. Consortium/LLNL at: image.llnl. Plate: LLCM161 row: b column: 06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             High quality sequence stop: 559.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDNA Library Preparation: Ling Hong/Rubin Laboratory CDNA Library Arrayed by: The I.M.A.G.E. Consortium (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone="IMAGE:3356669"
/clone_lib="NIH_MGC 16"
/clone_lib="NIH_MGC 16"
/tissue_type="retinoblastoma"
/lab_hoSt="DH10B (phage-resistant)"
/note="DH10B (phage-resistant)"
/note="DH10B (phage-resistant)"
/note="DH10B (phage-resistant)", Site 1: XhoI; Site 2:
/note="DH10B (phage-resistant)", Site 1: XhoI; Site 2:
/note="DH10B (phage-resistant)", Site 2: XhoI; 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 548; DB 10; 1
Pred. No. 7.9e-242;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 561;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ٥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                            3247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                193
553
                                                                                                                                                  493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 be
.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
```

CGGCAGCC 3375

```
RESULT 3
BG394794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
                                                                                                                                                         뭥
                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                 Ş
                                                                             밁
                                                                                                                 Ś
                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /ERSION
                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                    Matches 562;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                 1347
                                                                                                                                                                                                                                                                                                                                                                 1287
                                       1527
                                                                                                                     1467
                                                                                                                                                                                                   1407
249
                                                                             189
                                                                                                                                                             129
                                                                                                                                                                                                                                           69
                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                         φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGCAGCC 561
                                                                                                                                                                                                                                                                    ACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGACATG 1406
                                                                                                                                                                                                                                                                                                                                                                 GAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAACTAC 1346
                       TGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGCTAC 1586
                                                                                                         ACCAGGAGCCCTGCTGACATCTTCAACCCTGAGCACCATGTGCACCAGGACATG 128
                                                                                                                                                                                                                                                                                                                         GAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGGCATTGATGGCTTCACCAACTAC 68
TGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGCTAC
                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1. (bases 1 to 1016)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Plate: LLCM1297 row: i column: 08 High quality sequence stop: 599.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDNA Library Preparation: Ling Hong/Rubin Laboratory CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: image.llnl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Robert Strausberg, Ph.D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NIH-MGC http://mgc.nci.nih.gov/.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BG394794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       602457129F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:4579663 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BG394794.1 GI:13288242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           324
                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db xxef="taxon:9606"
/db xxef="taxon:9606"
/clone="IMAGE:4579663"
/clone="IMAGE:4579663"
/clone="IMAGE:4579663"
/clone="Ib="NIH MGC_16"
/tissus type="retinoblastoma"
/lab host="DH10B (phage-resistant)"
/lab host="DH10B (phage-resistant)"
/note="OTGan: eye; Vector: pOTB7; Site 1: xhoI; Site 2:
/note="OTGan: eye; Vector: pOTB7; Site 1: xhoI; Site 2:
/note="DH10B (phage-resistant)"
/note="DH10B (phage-resistant)"
/note="DH10B (phage-resistant)"
/cloned into EccRI/XhoI sites using the following 5;
adaptor: GGCACGAG(G). Library constructed by Ling Hong
in the laboratory of Gerald M. Rubin (University of
California, Berkeley) using ZAP-cDNA synthesis kit
(Stratagene) and Superscript II RT (Life Technologies).

Note: this is a NIH MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .1016
                                                                                                                                                                                                                                                                                                                                                                                                                         11.0%;
99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                         Score 512; DB 12;
Pred. No. 3.8e-225;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1016 bp
                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1016;
                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST 12-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                               188
      308
                                                                                 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .gov
                                                                                                                                                                                                                                                                                                                                                                                                         0
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    맖
В
                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BM903836
                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                              BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                Query Match
Best Local
                                                                                                                                    Matches 473;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                309
                                        2066 AAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGC 2125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        549
                                                                                                                                                                Local Similarity
۳
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGAAAATGGCCCAGTATCTGACTGACATCCTTIGGGGACAAGCTIGGACCTGTCATCAGTG 1766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAGCAG 1706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGGGGAAGAAGCTCCCAGCCAA 1849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAAACCATCAACAAATATGCCTTC 1646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGGGGAAGAAGCTCCCAGCCAA 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGCAGTGAAGATGCCAGCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTG
AAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGC 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1002
AGENCOURT 6695882 NIH MGC_67
5', mRNA sequence.
RM907297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 1002)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BM903836.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDNA Library Preparation: Life Technologies, Inc. CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Agencourt Bloscience Corporation Clone distribution: MGC clone distribution information ca found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BM903836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        http://image.llnl.gov
Plate: LLAM12114 row: d column:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      quality sequence stop: 428.
                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                      /clone_ilb="wif. rwc_'/clone_ilb="retinoblastoma" /tissue_type="retinoblastoma" /lab_host="DH10B (phage-resistant)" /lab_host="DH10B (phage-resistant)" /note="Organ: eye; Vector: pCMV-SPORT6; Site_1: NotI; /notE="Organ: eye; Vector: pCMV-SPORT6; Vector: pCMV
                                                                                                                                                                                                                                                                                          Average insert size 1.75 kb.
Technologies."
299 c 343 g 140 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone="IMAGE:5492312"
/clone_lib="NIH_MGC_67"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1. .1002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            db_xref="taxon:9606"
                                                                                                                                                            10.2%;
                                                                                                                                    0
                                                                                                                                                                Score 473;
Pred. No.
                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bp mkna
Homo sapiens
                                                                                                                                                                   4e-207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                     DB 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cDNA clone IMAGE:5492312
                                                                                                                                                                                                  Length 1002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  information can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST 12-MAR-2002
                                                                                                                                    0
                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          368
                                                                                                                                                                                                                                                                                                                                                                     Life
                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                        0;
```

ş

2126 CAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCTTCTCCAGGCGCAAGAAGAAGGAGCAG 2185

```
KEYWORDS
SOURCE
                                                                   ORIGIN
                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ş
                                                                                  BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BE908459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Locus
   Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
TITLE
                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGACTCCAGCAACTACAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAATGG 2538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAGTACCTACGCTTCAACCAGCAGCAGCTCTCCCGCATCTACCCCTCCTCCTTCACCGTGT 2485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGCAGGTGTCGTCCTTCAGCGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCTGGTGAAGTACACCAAGTCCGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              365;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGACTCCAGCAACTACAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCAGTACCTACGCTTCAACCAGCAGCAGCTCTCCCGCATCTACCCCTCCTCCTACCGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGGCAGGTGTCGTCCTTCAGCGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCTGGTGAAGTACACCAAGTCCGTGGCCACCACGACATAGAGATGGAGGCGGCGTCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAGAGCCGAGGGGGCGACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCAGAGCCGAGGGGCGACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGA 2305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAGGATGAGGGTCAGGACTCCCCGGGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAGGATGAGGGTCAGGACTCCCCGGGAGG
                                                                                                                                                                                                                                                                                       High
                                                                                                                                                                                                                                                                                                                                                                                                                        Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                        http://image.llnl.gov
Plate: LLAM9711 row: e column: 23
                                                                                                                                                                                                                                                                                                                                          found through the I.M.A.G.E. Consortium/LINL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NIH-MGC http://mgc.nci.nih.gov/
National Institutes of Health,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mRNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Robert Strausberg,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BE908459.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601503091F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE:3904894 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BE908459
                    Similarity
                                                                                                                                                                                                                                                                                                                                                       CDNA Library Preparation: Life Technologies, Inc. CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 436)
                                                                                  100
ilarity 100.0%;
Conservative (
                                                                                                                                                                                                                                                                                           quality sequence stop: 433.
                                                                                   Ø
                                                                                             Average insert size 1.1 kb.
Technologies."
1 129 c 138 g 69 t
                                                                                                                                                                                                                                            organism="Homo sapiens"
                                                                                                                                                                                                                                                                            location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GI:10403059
                7.9%; Score 365; DB 12; Length 436; 00.0%; Pred. No. 2.7e-157;
 0
                                                                              138 g
 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                436 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalian
                                                                                  4 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST 20-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            473
 0
 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
 0
```

```
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
VERSION
      BASE COUNT
                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BG819793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1297 CAGAA 1301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       432 CAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTCATGCTGACCTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCC 1296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGA 1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGTTTTGAAGAGTTCT 1116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGAGGTCCTGCAGCTGCACAAGCTCAACGTGAACCTGCCCCGGCAGAGGGTGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTCATGCTGACCTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGGTTTTGAAGAGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCGAGGTCCTGCAGCTGCACAAGCTCAACGTGAACCTGCCCCGGCAGAGGGTGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTG
                                                                                                                                                                                                                                                                                                                                DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: cgapbs-r@mail.nih.gov
Tissue Procurement: David N. Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NIH-MGC http://mgc.nci.nih.gov/
National Institutes of Health,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 663)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        602781835F1 NCI_CGAP_Brn67
5', mRNA sequence.
                                                                                                                                                                                                                                                                                                               Plate: LLAM10858 row: f column:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          numan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BG819793.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BG819793
                                                                                                                                                                                                                                                                                                                                                                                                                   cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       436
      133
                                                                                                                                                                                                                                                                                            quality sequence stop:
/note="Organ: brain; Vector: pCMV-SPORT6; Site_1: Not
Site_2: Sall; Cloned unidirectionally. Primer: Oligo
Average insert size 2.3 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
a 199 c 212 g 119 t
                                                                                                                               loss
                                                                                                                                                                /clone="IMAGE:4932488"
/clone_lib="NCI_CGAP_Brn67"
                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                     /lab_host="DH10B (T1 phage-resistant)"
                                                                                                                                            tissue_type="anaplastic oligodendroglioma with 1p/19q"
                                                                                                                                                                                                             db_xref="taxon:9606"
                                                                                                                                                                                                                               organism="Homo sapiens"
                                                                                                                                                                                                                                                       . 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GI:14167380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63 bp
Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA linear EST 22-MAY-2 sapiens cDNA clone IMAGE:4932488
                                                                                                                                                                                                                                                                                                                   09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                M.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                       (LLINIL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      131
                                                                                                                                                                                                                                                                                                                                                                              be
```

```
RESULT 7
BE244972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 460;
                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2596 GCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTGCATGTGCCAGGGCGTGTTCA 2655
                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCA 3055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGCCAGGCTACAGACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGTCTGGGACCACGATCCCATCGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTGCACATGCCGGAGATCGCCGCTGGTCCGCTTCCTCGTCTGGGACCACGATCCCATCGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGGAGACCCTGGTTTTCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGGAGACCCCTGGTTTTCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACTGCAGCAGGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACTGCAGCAGGGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCAGTGGCCAGCATGCTTCCCAAGCCGCGCGACTCCATGCTGGGGGGACCGTGGGGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCAGTGGCCAGCA-GCTTCCCAAGCCGCGCGACTCCATGCTGGGGGACCCGTGGGGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGCTGGTGCTCCGGATCA 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGCTGGTGCTCCGGATCA 2715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTGCATGTGCCAGGGCGTGTTCA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCA 538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGCCAGGCTACAGACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BE244972 395 bp mRNA linear EST 03-OCT
TCBAP3E1691 Pediatric pre-B cell acute lymphoblastic leukemia
Baylor-HGSC project=TCBA Homo sapiens cDNA clone TCBAP1691, ml
                                                                                                                                                                                                                                                        Texas Children's Cancer Center and Human Genome at Baylor College of Medicine
1102 Bates, MC3-3320 Houston, TX 77030, USA
                                                                                                                                                                                                                                                                                                                Pediatric Leukemia cDNA Sequencing Project Unpublished (2000) Contact: Dr. Judith F. Margolin
                                                                                                                                                                                                                                                                                                                                                                                                                  Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; I
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
1 (bases 1 to 395)
                                                                                                                                                     Email: clones@txccc.org
Citation: Carninci,P. and Hayashizaki,Y. High efficiency
full-length cDNA cloning. Methods Enzymol. 303, 19-44 (1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BE244972.1
                                                                                                                                                                                                                                                                                                                                                                                                   Wei,Y., Tsang,Y.T.M., Mei,G., Ku,J.M., Ali-Osman Jr.,F.R., Muzny,D
                                                                                                                                                                                                                                                                                                                                                                              Bouck, J., Gibbs, R.A. and Margolin, J.F.
                                                                                                                                        primer: M13 primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                       832-824-4536
832-825-4038
/clone="TCBAP1691"
/clone lib="Pediatric pre-B cell acute lymphoblastic
leukemīa Baylor-HGSC project=TCBA"
                                                                                                   1. .395
                                                                                                                    Location/Qualifiers
                                                                              organism="Homo sapiens"
                                                              db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GI:9096637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7.3%;
99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          o
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 340; DB 12;
Pred. No. 1.1e-145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 663;
                                                                                                                                                                 19-44 (1999)
                                                                                                                                                                                                                                                                                                      Sequencing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST 03-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           377
```

```
RESULT 8
BE255354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                SOURCE
ORGANISM
                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                               KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Focus
                                                                                                                                                                                                                                           TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGTCCTTCAGCGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGCGCGCAGTACCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACACCAAGTCCGTGGCCACCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGCGACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTACAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAAC 2549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTTCAACCAGCAGCAGCTCTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACACCAAGTCCGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGTCCTTCAGCGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTACAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAAC 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTTCAACCAGCAGCAGCTCTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCA
                                                                                                                                                                  Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                      National Institutes of Health,
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                 EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                          BE255354.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601115369F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3355889
                                                                                                                                                                                                                     Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                        NIH-MGC http://mgc.nci.nih.gov/.
Plate: LLCM160 row: j column: 18 High quality sequence stop: 576.
                           found through the I.M.A.G.E. Consortium/LLNL at: image.llnl.gov
Plate: LLCM160 row: j column: 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                       cDNA Library Preparation: Ling Hong/Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
CNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
                                                                                                                                                                                                                                                                                                           (bases 1 to 801)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="vector: lambda pSB; Site_1: BamHI; Site_2: EcoRI; First strand cDNA was primed with an anchored Xhol-oligo (dT) primer [5'GGAGGACTGAGGAGGAGGAGGAG(T) VN 3'; V=A,C,G; W=A,C,G; I and then dG tailed. Second strand was primed with a BamH1-dC primer [5'AGAGAGCTCGGATGATAATAATA(C) 3'].

[5'AGAGAGCTCGGATCGGCGCGCAATAATAATAATA(C) 3'].

Double-stranded cDNA was then digested with BamH1 and Xhol and directionally cloned into the BamH1 and SalI sites of lambda pSB vector. Library went through one round of normalization. Library was constructed by Wei Yu at RIKEN of Japan (Carninci P, Westover A, Nishiyama Y, Ohsumi T, Itoh M, Nagaoka S, SasakiN, Okazaki Y, Muramatsu M, Schneider C, Hayashizaki Y, High efficiency selection of full-length cDNA by improved biotinylated cap trapper., DNA Res 4: 1, 61-6, Feb 28, 1997)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /tissue_type="leukopheresis"
/cell_"pre-B cell"
/dev_stage="pedatric 2 years"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                          GI:9125792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6.3%; 5c.
100.0%; Pr
                                                                                                                                                                                                                                                                                                                                      Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 293;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       801 bp
                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                    Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5e-124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST 13-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

Ś B

Ş 밁

밁

밁 Ş 밁 Ş

Ś

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BI756147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1412 GCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCCTACCTCGTGGGTGACCAGCT 1471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1352 GAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGACATGACGCA 1411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCGCTGAGCCACTACTTCATCACCTCGTCCCACACACCCTACCTCGTGGGTGACCAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCATGTGCACCAGGACATGACGCA 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 684)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
                                                                                                                                                                                                                  High quality sequence stop: 535
Location/Qualifiers
                                                                                                                                                                                                                                                                                       DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA sequence
BI756147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BI756147 684
603030048F1 NIH_MGC_114 Homo
                                                                                                                                                                                                                                                                 Plate: LLAM11501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BI756147.1 GI:15747725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              206 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note-"Organ: eye; Vector: pOTB7; Site_1: XhoI; Site_2: ECORI; cDNA made by oligo-dT priming. Directionally cloned into EcoRI/XhoI sites using the following 5' adaptor: GGCACGAG(G). Library constructed by Ling Hong in the laboratory of Gerald M. Rubin (University of California, Berkeley) using ZAP-cDNA synthesis kit (Stratagene) and Superscript II RT (Life Technologies). Note: this is a NIH MGC Library."
                                                                       /clone="IMAGE:5200378"
/clone_lib="NIH_MGC_114"
/lab_host="DH10B"
                                                                                                                                             /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="IMAGE: 3355889"
/clone lib="NIH_MGC_16"
/tissue_type="retinoblastoma"
/tissue_type="retinoblastoma"
/tisb_most_"DH10B_(phage_resistant)"
/tisb_most_"DH10B_(phage_resistant)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
/note="Organ: brain; Vector: pCMV-SPORT6; Site_1: NotI; Site_2: EcoRV (destroyed); RNA source anonymous pool of male brains, age range 23-27 yo. Library is oligo-dT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                 . 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3.7%;
                                                                                                                                                                                                                                                                 row: p column: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 172;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bp mRNA linear EST 25-SEP-2001 sapiens cDNA clone IMAGE:5200378 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4.6e-68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 801;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>,</u>
```

```
RESULT 10
AQ741196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
    BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뭉
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 206;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3676 GTCCTGGGGCCTGGAGGCAGGGTCCAGGCGGTAGCGGCTCCATGTCCTCGGACTCCAGCA 3735
                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGAGTAAATCCCCCATGTTCTCCGCCG 3882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACCGGGGGCCCTGCAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGGAGAGATCA 3855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCCAGACAGCCCGGGCATCCCCGAAAGGTCCCCCCCGCTGGCCTGAGGGTGCCTGCAGGC 3795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCCTGGGGCCTGGAGGCAGGGTCCAGGCGGTAGCGGCTCCATGTCCTCGGACTCCAGCA 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGAGTAAATCCCCCATGTTCTCCGCCG 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCCAGACAGCCCGGGCATCCCCGAAAGGTCCCCCCCGCTGGCCTGAGGGTGCCTGCAGGC 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACCGGGGGCCCTGCAGGTAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGATCA
                                                                                                                                                                                                                                                                                                                                                                    High quality sequence stop: 839.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fax: (206) 616-3887
Email: jwallace@u.washington.edu
Clones may be purchased from Research Genetics (info@resgen.com).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           High Throughput Sequencing Center University of Washington
401 Queen Anne Avenue North, Seattle,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 839)

Mahairas,G.G., Wallace,J.C., Smith,K., Swartzell,S., Holzman,T., Mahairas,G.G., Wallace,J.C., Smoth,K., Swartzell,S., Adams,M.D. and Mahairas,G.G., Shaker,R., Furlong,J., Young,J., Zhao,S., Adams,M.D. and Mahairas, Shaker,R., Furlong,J., Young,J., Zhao,S., Adams,M.D. and Mahairas, Shaker,R., Furlong,J., Young,J., Zhao,S., Adams,M.D. and Mahairas, M.D. and Mahairas, M.D. and M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AQ741196 839 bp DNA linear GSS 16-JUL-199
HS_2273_A2_G04_MR CIT Approved Human Genomic Sperm Library D Homo
sapiens genomic clone Plate=2273 Col=8 Row=M, DNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BAC end Web Server: http://www.htsc.washington.edu
Plate: 2273 row: M column: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Mahairas GG, Wallace JC, Hood L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99380589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Proc. Natl. Acad. Sci. U.S.A. 96 (17), 9739-9744 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence-tagged connectors: A sequence approach to mapping
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Class: BAC ends
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Seq primer: M13 Reverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 scanning the human genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  нооа, ь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AQ741196.1 GI:5518718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
    134 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (206) 616-3618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                      /note="Organ: sperm; Vector: pBeloBAC11; BAC Clones
E-Coli DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         upon cloning). Average insert size 1.5 kb, insert size range 1-3 kb. Library is normalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 019. Note: this is a NIH MGC Library."
                                                                                                                      /sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                primed and directionally cloned (EcoRV site is destroyed
                                                                                                                                                             /clone="Plate=2273 Col=8 Row=M"
/clone_lib="CIT Approved Human Genomic Sperm Library D"
                                                                                                                                                                                                                                                  /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                   organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                  . 839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
178 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 156; DB 13; Pred. No. 1.1e-60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
    109 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WA 98109, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 684;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GSS 16-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and
```

```
á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BF463298
밁
                                                           Ś
                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /ERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                 Matches
                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4579
                                   2466 TACCCCTCCTACCGTGTGGACTCCAGCAACTACAA 2503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCCTCCGTAGTTAGGAACTGAGAGCGGCGAGTGACAGGTAACGGGGCCCAGCCCCG 4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGCCTCCGTAGTTAGGAACTGAGAGCGGCGAGTGACAGGTAACGGGGCCCAGCCCCG 79
TACCCCTCCTACCGTGTGGACTCCAGCAACTACAA 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BF463298 509 bp mRNA linear EST 04-DEC-2000 UI-M-CGOp-bnl-h-03-0-UI.S1 NIH BMAP_Ret4_S2 Mus musculus cDNA clone UI-M-CGOp-bnl-h-03-0-UI 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        is generating a small number of additional specialized non-redundant arrays of BMAP cDNAs whose availability will be considered under appropriate and limited collaborative arrangements Seq primer: M13 Forward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: mEST@mail.nih.gov
Oligo-dT track not found, Not I site shown in beginning of sequence
is likely internal to the message. cDNA Library Preparation: M.B.
Soares Lab Clone distribution: Researchers may obtain BMAP cDNA
clones from RESEARCH GENETICS. It should be noted that Bento Soares
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Chin, H
National Institute of Mental Health
National Institute of Mental Health
6001 Executive Blvd. Room 7N-7190, MSC 9643, Bethesda,
20892-9643, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus
                                                                                                                                     38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tel: 301 443 1706
Fax: 301 443 9890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97044477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genome Res. 6 (9), 791-806 (1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Normalization and subtraction: two approaches to facilitate gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 (bases 1 to 509)
Bonaldo, M.F., Lenno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BF463298.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BF463298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   POLYA=No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nouse mouse
                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                      133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.2%; Score 57; ilarity 100.0%; Pred. No. Conservative 0; Mismatcl
                                                                                                                                                                                                                                                                                                                                                       /Strain="C57BL/6J"
/db xref="taxon:10090"
/db xref="taxon:10090"
/clone="III-M-C60p-bnl-h-03-0-UI"
/clone="III-M-03-0-UI"
/clone="III
                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                   TAG_SEQ=None
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GI:11532481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lennon, G. and Soares, M.B.
                                                                                                                                                             100.0%;
                                                                                                                                     <u>.</u>
                                                                                                                                                                                                                                                                                                   found"
140 g
                                                                                                                                                                 Score 38;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 17; Length 839; 6.4e-15;
                                                                                                                                                                                                                                                                                                          84 t
                                                                                                                                                                                                       DB 12;
                                                                                                                                                                    3.5e-06;
                                                                                                                                                                                                    Length 509;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST 04-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
```

```
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BB430723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: genome-res@gsc.riken.go.jp,
URL:http://genome.gsc.riken.go.jp/
Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K., Itoh
Carninci,P., Shibata,Y., Muramatsu,M. and Hayashizaki,Y.
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new
genes. Genome Res. 10 (10), 1617-1630 (2000)
wagi,K., Fujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,E.,
Watahiki,M., Yoneda,Y., Ishikawa,T., Ozawa,K., Tanaka,T., Matsuura
,S., Kawai,J., Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A. and
Hayashizaki,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arakawa, T., Carninci, P., Pukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hiramoto, K., Hori, F., Ishii, Y., Ito, M., Kawai, J., Konno, H., Koudd, M., Koya, S., Matsuyama, T., Miyazaki, A., Nomura, K., Ohno, M., Okazaki, Y., Okido, T., Saito, R., Sakai, C., Sakai, K., Sano, H., Sasaki, D., Shibata, K., Shinagawa, A., Shiraki, T., Sogabe, Y., Suzuki, H., Tagawa, A., Takahashi, F., Takeda, Y., Tanaka, T., Toya, T., Muramatsu, M. and Hayashizaki, Y., Muramatsu, M. and Hayashizaki, Y. RIKEN Mouse ESTs (Arakawa, T., et al. 2001)
Unpublished (2001)
On Jul 18, 2000 this sequence version replaced gi:9270450.
Contact: Yoshihide Hayashizaki
Contact: Yoshihide Hayashizaki
Tahoratory, for Genome Farlorshiraki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BB430723 RIKEN full-length enriched, adult male hippocampus Mus musculus cDNA clone C630034J05 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) Yamanaka, I., Kiyosawa, H., Kondo, S., Saito, T., Shinagawa, A., Aizawa, K., Fukuda, S., Hara, A., Itch, M., Kawai, J., Shibata, K., Arakawa, T., Ishii, Y. and Hayashizaki, Y. Shibata, K., Shibata, K., Pikuda, S., Hara, A., Itch, M., Kawai, J., Shibata, K., Arakawa, T., Ishii, Y. and Hayashizaki, Y. Shibata, K., Shibata, K., Fired, Shibata, K., Shibata, K., Arakawa, T., Ishii, Y. and Hayashizaki, Y. Shibata, K., Shibata, Shibata, K., Shibata, Shi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Jap
Tel: 81-45-503-9222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BB430723.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BB430723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        prepare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 1757-1771 (2000)
Konno,H., Fukunishi,Y., Shibata,K., Itoh,M., Carninci,P., Sugahara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Division of Experimental Animal Research in Riken contributed to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Please visit our web site (http://genome.gsc.riken.go.jp/) for further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nouse mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Y. and Hayashizaki, Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (bases 1 to 696)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81-45-503-9216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mouse tissues
                                                                                                       "sndwesoddi
                                                                                                                                                                                                                                                                                                                                  /organism="Mus musculus"
/strain="C57BL/6J"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
tissue_type="hippocampus'
                                                                                                                                                                            /clone_lib="RIKEN full-length enriched, adult male
                                                                                                                                                                                                                           clone="C630034J05"
                                                                                                                                                                                                                                                                              db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   230-0045, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST 31-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hara,A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sasaki
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 13
BG299246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best|Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1641 GCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCAT 1678
  |Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                        Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCAT 182
                                                                                                                                                                                                                                                                                                                                                              High quality sequence start: 4
High quality sequence stop: 660.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: The Cepko Laboratory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             38;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Plate: LLAM10384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 711)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BG299246 711 pp IIIRUM 14H-ULL TO TO TO TO THE TOTAL TO THE TAXABE 14507377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BG299246.1 GI:13064707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BG299246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
                                                                                       179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       184 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                   full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
204 c 211 g 116 t 1 others
                                                                                                                                             /clone_lib="NIH_MGC_94"
/tissue_type="retina"
/tissue_type="retina"
/lab_host="DH10B (phage-resistant)"
/note="rogan: eye; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: Sall; Cloned unidirectionally; oligo-dT primed.
Syrange insert size 3.3 kb. Library enriched for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note-"Site 1: XhoI; Site 2: BamHI; cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone="IMAGE:4507377"
                                                                                                                                                                                                                                                                                                    db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                      organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cap-trapper. Second strand cDNA was prepared with the
primer adapter of sequence [5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 prepared by using trehalose thermo-activated reverse transcriptase and subsequently enriched for full-length by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /dev_stage="adult"
/lab_host="SOLR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
0.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       175 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                               row: e column: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
Score :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 38;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  202 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
  . No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       134 t
DB 12;
3.7e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3.7e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 696;
                    Length 711;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST 21-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           °.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
```

SOURCE KEYWORDS

VERSION

COCUS

밁 Ş

FEATURES

Query Best

COMMENT

```
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 14
BQ946757
                     REFERENCE
                                                                                                                                                                                                                                                                                                                                 뮰
                                                                                                         SOURCE
                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                  BQ960462
                                                                                                                                                                                                                                                                     RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                        2535 ATGGTTGCCCTGAACTACCAGTCAGAGGGGGGGGATGCT 2572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2466 TACCCCTCCTACCGTGTGGACTCCAGCAACTACAA 2503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           310
                                                                                                                                                                                                                                                                                                                                 24 ATGGTTGCCCTGAACTACCAGTCAGAGGGGGGGGATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TACCCCTCCTACCGTGTGGACTCCAGCAACTACAA 347
                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus (bases 1 to 930)
NIH-MGC http://mgc.nci.nih.gov/.
                                                                                 Mus musculus
                                                                                                                                                                BQ960462
                                                                                                                                                                                 930
AGENCOURT_8930277 NIH_MGC_94
5', mRNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov plate: LLAM13991 row: k column: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (bases 1 to 889)
                                                                                                                                               BQ960462.1
                                                                                                                                                                               5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          38; Conservative
                                                                                                    nouse mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tissue Procurement: The Cepko Laboratory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BQ946757.1 GI:22362235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGENCOURT_8924326 NIH_MGC_94 Mus musculus cDNA clone IMAGE:6466785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BQ946757
                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cDNA Library Preparation: Life Technologies, Inc. CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Agencourt Bioscience Corporation DNA Sequencing by: Agencourt Bioscience Corporation Can Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     193 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          quality sequence stop: 676.
                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /Clone_lib="NIH_MGC_94"
/tissue_type="retina"
/lab_host="DH10B (phage-resistant)"
/note="Organ: eye; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: Sall; Cloned unidirectionally; oligo-dT primed.
Average insert size 3.3 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
a 268 c 272 g 155 t 1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone="IMAGE:6466785"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       0.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                .
.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 38; DB 14;
Pred. No. 3.9e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ٥,
                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          688
                                                                                                                                                                                                         musculus
                                                                                                                                                                                                                            mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA
                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 889;
                                                                                                                                                                                                         CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                         clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EST 21-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                              ,0
                                                                                                                                                                                                                          EST 21-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MUS.
                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
```

•	 	 							
•				•					
			•						

```
Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
                                                                    1262
1085.5
1002
840.5
723.5
685.5
522.5
                                                                                                                                                                                                                                                                             1281
1279.5
1278.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score
       458
452.5
452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 March 28, 2003, 13:51:40 ; Search time 38 Seconds
    100.0
27.2
22.6
22.6
22.1
20.1
20.0
19.0
17.0
17.0
115.7
113.3
117.7
113.3
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117.7
117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 237916 seqs, 58723674 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MAPPTAGPLPGPALPPEDPG......ALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-927-112-2
6379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Published_Applications_AA: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        : /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length DB
    608
567
1809
1054
628
340
191
170
158
847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Match 100%
       10
10
10
10
10
10
                                                                                                                                                                                                                                                                                                          10
                                                                                                                                                                                                                                                                                                                                                        10
                                                                                                                                                                                                                                                         US-10-096-961-4
0 US-09-800-971-2
US-10-096-961-2
US-10-096-961-5
US-09-908-664-5
US-09-835-996A-8
US-09-822-635-2
US-09-828-447-11
US-09-828-447-12
US-09-828-447-12
US-09-908-664-22
US-09-908-664-23
US-09-908-664-13
US-09-977-112-11
US-09-765-298A-10
US-09-800-971-7
                                                                                                                                                                                                                                                                                                                                                      US-09-927-112-2
US-09-927-112-10
US-09-804-969-15
US-09-908-664-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (without alignments)
1865.249 Million cell updates/sec
                                              Sequence 2, Appli
Sequence 15, Appl
Sequence 2, Appli
Sequence 5, Appli
Sequence 5, Appli
Sequence 1, Appli
Sequence 11, Appli
Sequence 12, Appli
Sequence 12, Appli
Sequence 13, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Description
                               Sequence
         Sequence
                               11,
10,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-927-112-2

; Sequence 2, Application US/09927112

; Patent No. US20020106774A1
                                                     QY
                                                                                                      밁
                                                                                                                                             δÃ
                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                      β
                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
```

193.5	228	249	255.5	260.5	263.5	264	264	284.5	284.5	290	290	290	290	319.5	320.5	323.5	335	375	426.5	426.5	426.5	426.5	426.5	444	444
3.0	3.6	3.9	4.0	4.1	4.1	4.1	4.1	5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.1	5.3		6.7	6.7	6.7	6.7	6.7	7.0	7.0
535	1134	92	134	105	102	158	158	202	181	128	128	128	128	119	272	128	119	201	153	153	153	153	153	119	119
9	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	9
US-10-043-487-306	US-10-001-873-50	12	US-09-927-112-15	US-09-764-870-357	US-09-822-635-7	US-09-764-860-342	US-09-764-870-377	US-09-908-664-14	US-09-927-112-14	US-09-908-664-20	US-09-908-664-11	US-09-927-112-8	US-09-800-971-8	US-09-908-664-15	US-09-804-969-19	US-09-908-664-23	US-09-800-971-9	US-09-867-550-1334	US-09-908-664-19	US-09-908-664-10	US-09-927-112-7	US-09-800-971-6	US-09-822-635-5	US-09-955-999-84	4
Sequence 306, App	~	•	15,	Sequence 357, App	7, A	Sequence 342, App	•	Sequence 14, Appl		-	Sequence 11, Appl	Sequence 8, Appli	Sequence 8, Appli	Sequence 15, Appl	Sequence 19, Appl	Sequence 23, Appl	Sequence 9, Appli	Sequence 1334, Ap	Sequence 19, Appl	Sequence 10, Appl	Sequence 7, Appli	Sequence 6, Appli	Sequence 5, Appli	Sequence 84, Appl	Sequence 637, App

ALIGNMENTS

```
APPLICANT: Meyers, Rachel
APPLICANT: Silos-Santiago, Inmaculada
TITLE OF INVENTION: 32544, a novel human phospholipase C and
TITLE OF INVENTION: uses thereof
TITLE OF INVENTION: uses thereof
FILE REFERENCE: 38155-20048.00
CURRENT APPLICATION NUMBER: US/09/927,112
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR FILING DATE: 2000-11-08
NUMBER OF SEQ ID NOS: 17
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 1207
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Homo sapiens US-09-927-112-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity Matches 1207; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Millennium Pharmaceuticals, Inc
121 YHGSHRESLDLYSTSSEVARTWYTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKN 180
                                                                                                                                                                                                               61 LVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYYDDGSFDPNCCFSI 120
                                                                                                                                                                                                                                                                                                                                               1 MAPPTAGPLEGPALEPEDPGPDPESRWLFLSANILEVVERCMGAMQEGMQMVKLRGGSKG 60
                                                                                                                                                                                                                                                                                                                      1 MAPPTAGPLPGPALPPEDPGPDPESRWLFLSANILPVVERCMGAMQEGMQMVKLRGGSKG 60
                                                                                                                                                                                                                                                LVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIOEVSEGROSEVFORYPDGSFDPNCCFSI 120
                                                                                                             YHGSHRESLDLYSTSSEVARTWYTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKN 180
                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 6379;
100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 10; Length 1207;
                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Gaps
```

Qy 뫄 δÃ B

밁

```
US-09-927-112-10
Sequence 10, Application US/09927112
                                                                                              201
                                                                                                                                                                                                         1141
                                                                                                                                .201
                                                                                                                                                                      141
                                                                                                                                                                                                                                                                                                                   021
                                                                                                                                                                                                                                                                                                                                                       021
                                                                                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 AGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                            RSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAASAWTVSPRVLVLVALYPWHCLRGTLL 1200
                                                                                                                                                                                                                                                     GPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPBGACRQPGALQGEMSALFAQKLEEI 1140
                                                                                                                                                                                                                                                                                                         GSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLGAPCCGLDPHAIPGRSREAPK
                                                                                          PWLACGP
                                                                                                                                                                                                                                                                                                                                          GSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLGAPCCGLDPHAIPGRSREAPK 1080
                                                                                                                              PWLACGP 1207
                                                                                                                                                                                                                                GPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPEGACRQPGALQGEMSALFAQKLEEI
                                                                                                                                                           RSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAASAWTVSPRVLVLVALYPWHCLRGTLL
                                                                                                                                                                                                                                                                                                                                                                                PPGPGPAPEAPAQEGPGSGSPRGKAPAAVAEKSPVRVRPPRVLDGPGPAGMAATCMKCVV
                                                                                                                                                                                                                                                                                                                                                                                                   PPGPGPAPEAPAQEGPGSGSPRGKAPAAVAEKSPVRVRPPRVLDGPGPAGMAATCMKCVV 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVV 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKP 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIG 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLFKPRDSMLGDRGEI 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QKPAQYLRENQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SPGGOSRGATROKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKP 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EVSDEDSADEIDDDCKLLINGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTL 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTL 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKKLVKGKKLPANISEDAEEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGIDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEDCPENKSKGLLGIDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FTNYTRSPAGDIENPEHHHVHQDMTQPLSHYFIISSHNTYLVGDQLMSQSRVDMYAWVLQ
                                                                                              1207
                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                                                                                                1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                       960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
```

밁 Ş 망 Š 밁 Ş 밁 ρy

밁 Qy В Š 밁 Q В Ωy 밁 Š 밁 ρy 밁 Ş 망 δõ 뫄 Qy В ρ

```
US-09-804-969-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; OTHER INFORMATION: Consensus amino acid US-09-927-112-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Meyers Rachel
APPLICANT: Silos-Santlago, Inmaculada
TITLE OF INVENTION: 32544, a novel human pho
TITLE OF INVENTION: uses thereof
FILE REFERENCE: 38155-20048.00
CURRENT APPLICATION NUMBER: US/09/927,112
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: US 60/246,808
                                                                                                                                                                                                                  APPLICANT: Hu, Yi
APPLICANT: Nepomn
APPLICANT: Donoho
APPLICANT: Hilbun
APPLICANT: Turner
APPLICANT: Abuin,
                                                                                                                                                                                                                                                                                                                                                       Sequence 15, Application US/09804969 Patent No. US20020081595A1
                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 17

SOFTWARE: FRASTSEQ for Windows Version 4.0
SEQ ID NO 10
LENGTH: 325
TYPE: PRT
ORGANIEM: Artificial Sequence
FEATURE:
APPLICANT: Sands, Arthur T.

TITLE OF INVENTION: No. US20020081595Alel Human Phospholipases and Polynucleotides FILE REFERENCE: LEX-0148-USA
CURRENT APPLICATION NUMBER: US/09/804,969
CURRENT FILING DATE: 2001-03-13
PRIOR APPLICATION NUMBER: US 60/188,885
PRIOR PILICATION NUMBER: US 60/189,693
PRIOR APPLICATION NUMBER: US 60/189,693
PRIOR FILING DATE: 2000-03-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 27.2%;
Best Local Similarity 99.7%;
Matches 324; Conservative
                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patent No. US20020106774A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR FILING DATE: 2000-11-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Millennium Pharmaceuticals, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1183 VLVLVALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1123 GALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAASAWTVSPR 1182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301 VLVLVALYPWHCLRGTLLPWLACGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        883 KVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPE 942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 QVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPE 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAASAWTVSPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGLDPHAIPGRSREAPKGPGAMRQGPGGSGSMSSDSSPDSPGIPERSPRWPEGACRQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSDDSPGIPERSDRWPEGACRQP 1122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGPGSGSPRGKAPAAVAEKSPVRVRDPRV 1002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LVLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGPGSGSPRGKAPAAVAEKSPVRVRPPRV 120
                                                                                                                                                                       Donoho, Gregory
Hilbun, Erin
Turner, C. Alexander Jr.
Abuin, Alejandro
Friedrich, Glenn
Zambrowicz, Brian
                                                                                                                                                                                                                                                                                              Nepomnichy, Boris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1738; DB 10
Pred. No. 1.2e-97;
1; Mismatches (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human phospholipase C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 10; Length 325;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-804-969-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                            믕
                                                                                                                                                                                                                                                                                                                                             Q
밁
                                S
                                                                         ₽
                                                                                                            Š
                                                                                                                                                     밁
                                                                                                                                                                                       õ
                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 15
LENGTH: 762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT ORGANISM: homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          103 VFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR 162
                                                                                                                                                                                                                                                                                                                                                                                          485
                                                                                                                                                                                                                                                                                                                                                                                                                                 583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       462
747
                                      871
                                                                                                                                                       630
                                                                                                                                                                                                                                  572
                                                                                                                                                                                                                                                                                                            512 KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYNPQELWNAG
                                                                                                                                                                                                                                                                                                                                               639 MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG 698
                                                                                                                                                                                            757 VLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEET 816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18 MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76
                                                                                                                                                                                                                                                                                                                                                                                                                              GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIK 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RYEPSDSGKLRHYLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQFLNHYFICSSHNTYLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QERLDQWLSDWFQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTL 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMD----H 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSE 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tch 22.6%; Score 1441; DB 10; Length 762; al Similarity 38.3%; Pred. No. 3.2e-79; 330; Conservative 145; Mismatches 253; Indels 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVKGKKL--TLEEDL---EYEEEEAEPELEE-------SELAL 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AFQTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPEELRRKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKK 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKI 462
                                                                                                              LVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---EG--MEEAS 870
                                                                                                                                                     LIQVISGQQLPKVDKT---KEGSIVDPLVKVQIFGVRLDTARQETNYVENNGFNPYWGQT 686
                                                                                                                                                                                                                                  CQMYAMNMQTAGLEMDICDGHFRQNGGCGYVLKPDFLRDIQSSFHP--EKPISPFKAQTL
                                                                                                                                                                                                                                                                     COMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLKKQL 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ESQFETEPEPQ-----KKKK 484
IFVYICIQE---
                                      IFVHVAVSDISGKVKQALGLKG 892
                                                                             LCFRVLVPELAMLREVVMDYDWKSRNDFIGQYTLPWTCMQQGYRHIHLLSKDGISLRPAS 746
  --GLEG
    759
                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  250
                                                                                                                                                                                                                                                                                                                571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20;
```

```
o d
Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; TYPE: PRT ; ORGANISM: Homo sapiens US-09-908-664-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-908-664-2
                                                                                                                                                                                                                                                                     γQ
                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                             .
V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                     Š
                                                                                                                                       밁
                                                                                                                                                                           Š
õ
                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2, Application US/09908664 Patent No. US20020115178A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO 2
LENGTH: 762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR FILING DATE: 2000-07-17
NUMBER OF SEQ ID NOS: 24
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Millennium Pharmaceuticals,
APPLICANT: Meyers, Rachel
APPLICANT: Rudolph-Owen, Laura
APPLICANT: Tsai, Fong Yin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       163 QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            462
                                                                                                                                                                                                                                                                                                                       431
                                                                                                                                                                                                                                                                                                                                                        463 LYKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIK 522
                                                                                                                                                                                                                                                                                                                                                                                                            371
                                                                                                                                                                                                                                                                                                                                                                                                                                                          403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    311 GDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 223
                                          512 KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYNPQELWNAG 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               251 RYEPSDSGKLRHVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               y Match 22.6%; Score 1441; DB 10; Local Similarity 38.3%; Pred. No. 3;2e-79; hes 330; Conservative 145; Mismatches 253;
  699 CQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLKKQL 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18 MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       45 MQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSE 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77 LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMD----H 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE
                                                                                                                                                                                                                                                                                                                                                                                                          AFQTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPEELRRKI 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GDQLMSQSRVDMYAMVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EGEEFVQFYKALIKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QERLDQWLSDWFQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTL 190
                                                                                                                                       SKPI------S 511
                                                                                                                                                                               GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                       AFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKI 462
                                                                                       MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG 698
                                                                                                                                                                                                                          ESQFETEPEPQ-----KKKK 484
                                                                                                                                                                                                                                                                       ESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKK 582
                                                                                                                                                                                                                                                                                                                    LVKGKKL--TLEEDL---EYEEEEAEPELEE------SELAL 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 762;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    282
```

```
Š
                                                                 В
                                                                                                         Qγ
                                                                                                                                                                B
                                                                                                                                                                                                            ρ
                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЬ
                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 5
US-10-096-961-4
; Sequence 4, Application US/10096961
; Patent No. US20020155572A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; ORGANISM: Cricetulus griseus US-10-096-961-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CÜRRENT APPLICATION NUMBER: US/10/096,961
CURRENT FILING DATE: 2002-03-14
PRIOR APPLICATION NUMBER: 60/232,632
PRIOR FILING DATE: 2000-09-14
PRIOR APPLICATION NUMBER: 09/738,884
PRIOR FILING DATE: 2000-12-18
PRIOR FILING DATE: 2000-12-18
PRIOR FILING DATE: 2000-12-18
PRIOR FILING DATE: 4000-12-18
PRIOR FILING DATE: 5000-12-18
PRIOR FILING DATE: 5000-12-18
PRIOR FILING DATE: 5000-12-18
PRIOR FILING DATE: 5000-12-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: GUEGLER, KAT1 et al.
APPLICANT: GUEGLER, KAT1 et al.
TITLE OF INVENTION: ISOLATED HUMAN PHOSPHOLIPASE PROTEINS,
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING HUMAN PHOSPHOLIPASE
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
FILE REFERENCE: CL000849DIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 306;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 744
TYPE: PRT
457 MLKGKILVKGKK----LPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENT 512
                                                 360 RAIRDYAFKASPYPVILSLENHCSLEQQQVMARHLKAILGPML-LDQPLDGVTMSLPSPE 418
                                                                              397 ETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQ 456
                                                                                                                                                                             337 HNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVI 396
                                                                                                                                                                                                                                                    240 ALSLIERYEPSETAKAQRQMTKDGFLMYLLSADGSAFSLAHRRVYQDMDQPLSHYLVSSS 299
                                                                                                                                                                                                                                                                                                   277 CQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSS 336
                                                                                                                                                                                                                                                                                                                                                     184 ----SLEDEEIETFYKMLTQRAEIDRVFAEAAGSAETLSVEKLVTFLQHQQREEAAGPAL 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                      125 DQRQKLQ-HWIHSCLRKADKNKDNKMNFKELKDFLKELNIQVDDSYARKIFRECDHSQTD 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     160 ARRORTRDOWLKOTFDEADKNGDGSLSIGEVLOLLHKLNVNLPRORVKOMFREAD---TD 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100 QSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSL 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        687 LCFRVLVPELAMLREVVMDYDWKSRNDFIGQYTLPWTCMQQGYRHIHLLSKDGISLRPAS 746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     817 LVENVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---EG--MEEAS 870
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          69 RTEGLEKFA-RDIPEDRCFSIVFKDQRNTLDLIAPSSADAQHWVQGLRKI---IHHSGSM 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              871 IFVHVAVSDISGKVKQALGLKG 892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      630 LIQVISGQQLPKVDKT---KEGSIVDPLVKVQIFGVRLDTARQETNYVENNGFNPYWGQT 686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 757 VLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEET 816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 747 IFVYICIQE-----GLEG 759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10 ALLKGSQLLKVKSSSWRRERFYKLQEDCKTI-WQESRKVMRSPESQLFSIEDIQEVRMGH 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     44 AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7 Match 20.1%; Score 1281; DB 9; Length 744;
Local Similarity 35.7%; Pred. No. 1.4e-69;
nes 306; Conservative 128; Mismatches 278; Indels 144; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                    DHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLES 276
                                                                                                                                                     HNTYLLEDQLTGPSSTEAYIRALCKGCRCLELDCWDGPNQEPIIYHGYTFTSKILFYDVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16;
```

<u> </u>	Db 419 QLKGKILLKGKKFGGLLPAGGENGPETTDVSDEDEAAEMEDE 460 Oy 513 AKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLV 572 Db 461
	Qy 573 VGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSV 632
	QY 633 ATHDIEMEAASSWOVSSFSETKAHQILQQKPAQYLRENQQQLSRIYPSSYRVDSSNY 689 : :::: : : : :
	QY 808 GENPTWEETLVEMVHMPEIALVRELVWDHDPIGR-DEIGQRTLAFSSMMPGYRHVYL 863
•	QY 864EGMEEASIFVHVAV 877 : :: ::: Db 728 NGDQHPSATLFVKISL 743
	0-971-2 0-971-2 NO. US20020098577A1 L INFORMATION: LANT: Rachel A. Meyers OF INVENTION: 16835, A NOVEL OF INVENTION: FAMILY MEMBER REFERENCE: 10448-023001 NIT APPLICATION NUMBER: US/09/8 NIT FILING DATE: 2001-03-06 APPLICATION NUMBER: 60/187,45
	S (S
	Query Match 20.1%; Score 1279.5; DB 10; Length 736; Hest Local Similarity 34.9%; Pred. No. 1.7e-69; Matches 297; Conservative 133; Mismatches 275; Indels 147; Gaps 19;
	Qy 44 AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQ 100
	QY 101 SEVFQRYPDGSFDDNCCFSTYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLA 160
	Qy 221 TLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDI 280

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 7
US-10-096-961-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                     ; TYPE: PRT
; ORGANISM: Homo sapien
US-10-096-961-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  닭
                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                          sequence 2, Application US/10096961
Patent No. US20020155572A1
                Query Match
                                                                                                                                    SEQ ID NO 2
                                                                                                                                                                                                                                                                    APPLICANT: GUEGLER, Karl et al.

TITLE OF INVENTION: ISOLATED HUMAN PHOSPHOLIPASE PROTEINS,

TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING HUMAN PHOSPHOLIPASE

TITLE OF INVENTION: PROTEINS, AND USES THEREOF

FILE REFERENCE: CL000849DIV

CURRENT APPLICATION NUMBER: US/10/096,961

CURRENT FILING DATE: 2002-03-14
Best Local Similarity
                                                                                                                                                  PRIOR FILING DATE: 2000-12-18
NUMBER OF SEQ ID NOS: 5
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                              PRIOR FILING DATE: 2000-09-14
PRIOR APPLICATION NUMBER: 09/738,884
                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: 60/232,632
                                                                                                               ENGTH: 736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      581 KKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHDIE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  281 IEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTY 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         185 LEG-AEIEEFLRRLLKRPELEEIFHQYSGEDRVLSAPELLEFLE-DQGEEGATLARAQQL 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   812 TWEETLVFMVHMPEIALVRFLVWDHDPIG-RDFIGQRTLAFSSMMPGYRHVYL----EG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          866 MEEASIFVHVAV 877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           610 SIQVLTAQQLPKLNAEKPH------SIVDPLVRIEIHGVPADCARQETDYVLNNGFNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    494 PNAPQPCQVSSLSERKAKKLIREAGNSFVRHNARQLTRVYPLGLRMNSANYSPQEMWNSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSL 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DHAFTLSPYPVILSLENHCGLEQQAAMARHLCTILGDMLVTQALDSPNPEELPSPEQLKG 422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETIN 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CQLVALNFQTPGYEMDLNAGRFLVNGQCGYVLKPACLRQ----PDSTFDPEYPGPPRTTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSE-DP-LPGQLKKQL 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RVLVKGKKLPAARSEDGR--ALSDREEEEEDDEE------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VLRIISGQQLP-----KPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNP 811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRK 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LSPATLFIQIRI 733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RWGQTLQFQLRAPELALVRFVVEDYDATSPNDFVGQFTLPLSSLKQGYRHIHLLSKDGAS 721
20.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----EEEEVE----AAAQRRLAK----
Score 1278.5; D
Pred. No. 2e-69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----QISPELSALAVYCHATRLRTLHPA 493
                    DB 9;
                  Length 736;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          553
```

```
Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                           밁
                                                                                                                                                                            Ş
                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                     밁
                                                             US-10-096-961-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
Sequence 5, Application US/10096961 Patent No. US20020155572A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               461 KILVKGKKLPANISEDA-----EEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAK 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           281
                                                                                                                                                                                                                                                                                                       604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         363 DHAFTLSPYPVILSLENHCGLEQQAAMARHLCTILGDMLVTQALDSPNPEELPSPEQLKG
                                                                                                                                                                               864 ----EGMEEASIFVHVAV 877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LTDSQIGGPSSTEAYVRAFAQGCRCVELDCWEGPGGEPVIYHGHTLTSKILFRDVAQAVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDI 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QRERL-DHWIHSYLHRADSNQDSKMSFKEIKSLLRWVNVDMNDMYAYLLFKECDHSNNDR 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RRQRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQG 220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEGLRRF-GGAFAPARCLTIAFKGRRKNLDLAAPTAEEAQRWVRGLTKLRARL---DAMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AMLRGSRLRKIRSRTWHKERLYRLQEDGLSV-WFQRRIPRAPSQHIFFVQHIEAVREGHQ 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW----RPSRKNEKAKISIDSIQEVSEGRQ 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LYGDQLMSQSRYDMYAWYLQAGCRCVEYDCWDGPDGEPIVHHGYTLTSKILFKDVIETIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LEG-AEIEEFLRRLLKRPELEEIFHQYSGEDRVLSAPELLEFLE-DQGEEGATLARAQQL 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEVFORYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLA 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IQTYELNETAKQHELMTLDGFMMYLLSPEGTALDNTHTCVFQDMNQPLAHYFISSSHNTY
                                                                                                                                           SKDGASLSPATLFIQIRI 733
                                                                                                                                                                                                                       NNGFNPRWGQTLQFQLRAPELALVRFVVEDYDATSPNDFVGQFTLPLSSLKQGYRHIHLL 715
                                                                                                                                                                                                                                                             DNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIG-RDFIGQRTLAFSSMMPGYRHVYL- 863
                                                                                                                                                                                                                                                                                                     PPRTTLSIQVLTAQQLPKLNAEKPH------SIVDPLVRIEIHGVPADCARQETDYVL 655
                                                                                                                                                                                                                                                                                                                                                                                                                         PFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSE-DP-LPG 750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RTLHPAPNAPQPCQVSSLSERKAKKLIREAGNSFVRHNARQLTRVYPLGLRMNSANYSPQ 547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVAT 634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RVLVKGKKLPAARSEDGRALSDREEGEEDDEEEEEE------VEAAAQ
                                                                                                                                                                                                                                                                                                                                           QLKKQLVLRIISGQQLP----KPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVD 805
                                                                                                                                                                                                                                                                                                                                                                                   EMWNSGCQLVALNFQTPGYEMDLNAGRFLVNGQCGYVLKPACLRQ----PDSTFDPEYPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HDIE--MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQ 692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         297; Conservative 129; Mismatches 273; Indels 159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----AKQISPELSALAVYCHATRL 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . . . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                                                                       603
```

TITLE OF INVENTION: PROTEINS, AND USES THEREOF FILE REFERENCE: CL000849DIV

APPLICANT: GUEGLER, Karl et al.
TITLE OF INVENTION: ISOLATED HUMAN PHOSPHOLIPASE PROTEINS,
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING HUMAN
TITLE OF INVENTION: PROTEINS, AND USES THEREOF

PHOSPHOLIPASE

```
밁
                                              Qy
                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                               ρy
                                                                                                                             Ş
                                                                                                                                                                          밁
                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                 γ
                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; TYPE: PRT; ORGANISM: Mus musculus US-10-096-961-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: 09/738,884
PRIOR FILING DATE: 2000-12-18
NUMBER OF SEQ ID NOS: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CÜRRENT APPLICATION NUMBER: US/10/096,961
CÜRRENT FILING DATE: 2002-03-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 60/232,632 PRIOR FILING DATE: 2000-09-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ENGTH: 744
            999
                                                                                           610
                                                                                                                                                                                                                  889
                                                                                                                                                                                                                                                                                                                                                                   571 LYVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTK 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     160 ARRORTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQWFREAD---TD 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100 QSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSL 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10 ALLKGSQLLKVKSSSWRRERFYKLQEDCKTI-WQESRKVMRSPESQLFSIEDIQEVRMGH 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       44 AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
                                    DNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYLE 864
                                                                              TQGPWWAPKKLRVWIISGQQLPKVNK----NKNSIVDPKVIVEIHGVGQDVASRQTAVIT
                                                                                                          DPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVBIIGLPVDCSRBQTRVVD
NNGFNPRWDTEFEFVVAVPDLALVRFMVEDYDSSSKNDFIGQSTIPWNSLKQGYRHVHLL 725
                                                                                                                                                                                                     NYNPQPFWNAGCOMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSE 745
                                                                                                                                                                                                                                                                                    SVATHDIEMEAASS----WQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSS 687
                                                                                                                                                                                                                                                SVHFGGFSSPSTSGQAFYEMASFSESRALRLLQESGNSFVRHNVGHLSRIYPAGWRTDSS
                                                                                                                                                               NYSPVEMWNGGCQIVALNFQTPGPEMDVYLGCFQDNGGCGYVLKPAFLRDPDTTFNSRAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                     NTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGR 570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PEQLKEKILLKGKKLGGLLPAGGENGPEATDVSDEDEAAEMEDEAV------RSQVQ 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PQMLKGKILVKGKK----LPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVE 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VLRAIRDYAFKASPYPVILSLENHCSLEQQRVMAHHLRAILGPML-LDQPLDGVTTSLPS 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPS 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SSHNTYLLEDQLTGPSSTEAYIRALCKGCRCLELDCWDGPNQEPIIYHGYTFTSKILFCD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKD 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --ALSLIERYEPSETAKAQRQMTKDGFLMYLLSADGNAFSLAHRRVYQDMNQPLSHYLVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFIT 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ~---SLEDEEIETFYRMLTQRAEIDRAFAEAAGSAETLSVEKLVTFLQHQQREEEAGPAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQK--MAGVTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DQRQKLQ-HWIHSCLRKADKNKDNKMNFKEVKDFLKELNVQVDDSYARKIFRECDHSQTD 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RTEGLEKFA-RDIPEDRCFSIVFKDQRNTLDLIAPSPADVQHWVQGLRKI---IDRSGSM 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          308;
                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative 128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19.8%; Score 1262; DB 9; Length 744; 35.9%; Pred. No. 2e-68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             274; Indels 148;
                                                                                                                                                                                                                                                                                                                                 ----KLKLVPELSDMVIYCK 489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                 609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19;
```

```
`
                                                                                                                                                             닭
                                                                                                                                                                                               20
           밁
                                             δÃ
                                                                                                                    Ş
                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                   Ω
                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뭕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-908-664-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-908-664-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 24
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 5, Application US/09908664 Patent No. US20020115178A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR FILING DATE: 2000-07-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: 16816 AND 16839, TITLE OF INVENTION: PHOSPHOLIPASE C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Millennium Pharmaceuticals, APPLICANT: Meyers, Rachel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 608
TYPE: PRT
ORGANISM: Homo sapiens
           442
                                 713 LQLNRAKFSANGGCGYVLKPGCM--CQGVFNP-NSEDPLPGQLKKQLVLRIISGQQLPKP 769
                                                                                  382
                                                                                                                                                             344
                                                                                                                                                                         603 GGOSRGATROKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVS------SFSE 652
                                                                                                                                                                                                                                      315
                                                                                                                                                                                                                                                                            543
                                                                                                                                                                                                                                                                                                               302
                                                                                                                                                                                                                                                                                                                                                                                                                              423
                                                                                                                                                                                                                                                                                                                                                     483
                                                                                                                                                                                                                                                                                                                                                                                     256 QQEVMADNLQATFGESL-LSDMLDDFPDTLPSPEALKFKILVKNKKI------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               363 CRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKVAFIKNEYPVILSIENHCSVI 422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      303 NYTRSPAGDIENPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           243 LMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGIDGFT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    183 GSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDLYL 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hes 257;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17 GKINLEKTORLLEKLDIRCSYIHVKOIFKDNDR-LKOGRITIEEFRAIYRIITHREEIIE 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 726 SKNGDLHPSATLFVKISI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  865 GME-----EASIFVHVAV 877
MDLQNGKFLDNGGSGYILKPHFLRESKSYFNPSNIKEGMP----ITLTIRLISGIQLPLT
                                                                                              TKAHQILQQKPAQYLRENQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSBGRM 712
                                                                         TQARKLSKLRVHEFIFHTRKFITRIYPKATRADSSNFNPQEFWNIGCQMVALNFQTPGLP
                                                                                                                                                  -----EKFKSFQHSRLYQQFNENNSIGE
                                                                                                                                                                                                                                ----KHGDNQDKETGV-----KKLPGVMLFKKKKTRKL---
                                                                                                                                                                                                                                                                SGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSP 602
                                                                                                                                                                                                                                                                                                                                           SDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSP 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CRCLEIDCWDGAQNEPVVYHGYTLTSKLLFKTVIQAIHKYAFMTSDYPVVLSLENHCSTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RYMDSRECLLFKNECRKVYQDMTHPLNDYFISSSHNTYLVSDQLLGPSDLWGYASALVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IFNTYSENRKILLASNLAQFLTQEQYAAEMSKAIAFEIIQKYEPIEEVRKAHQMSLEGFT
                                                                                                                                                                                                                                                                                                      -----GTLKETHERKGSD-----
                                                                                                                                                                                                                                                                                                                                                                                                                      QQKKMAQYLTDILGDKLDLSSYSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEGEV 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Meyers, Rachel
Rudolph-Owen, L
Tsai, Fong Yin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative 114; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17.0%; Score 1085.5; DB 10; Length 608; 36.1%; Pred. No. 6.9e-58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Laura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NOVEL HUMAN
MOLECULES AND USES THEREFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            198; Indels 143;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                         441
                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                            255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      362
```

B 8

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-835-996A-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/835,996A
CURRENT FILING DATE: 2001-04-16
PRIOR APPLICATION NUMBER: US 60/197,137
PRIOR APPLICATION NUMBER: US 60/197,137
PRIOR APPLICATION NUMBER: US 09/714,936
PRIOR FILING DATE: 2000-11-17
PRIOR PRICIATION NUMBER: US 09/667,298
PRIOR FILING DATE: 2000-09-22
PRIOR FILING DATE: 2000-09-22
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR APPLICATION NUMBER: US 09/598,042
PRIOR APPLICATION NUMBER: US 09/598,042
PRIOR FILING DATE: 2000-06-20
PRIOR FILING DATE: 2000-06-20
PRIOR FILING DATE: 2000-06-20
                                                                                                                        Š
                                                                                                                                                                              В
                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-835-996A-8
                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 8, Application US/09835996A Patent No. US20020142953A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 45
SOFTWARE: PatentIn version 3.0
SEQ ID NO 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Ballinger, Dennis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: MATERIALS AND METHODS RELATING TO LIPID METABOLISM FILE REFERENCE: 28110/35915A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   553 RFVVEGQGLIAGNEFLGQYTLPLLCMNKGYRRIPLFSRMGESLEPASLFVYV 604
283 QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV 342
                                                                        191 EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID 250
                                                                                                                                                                                132 QERLDQWLSDWFQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTL 190
                                                                                                                                                                                                                           163 QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL 222
                                                                                                                                                                                                                                                                                                                                   103 VFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR 162
                                                                                                                                                                                                                                                                                   77 LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMD----H 131
                                                                                                                                                                                                                                                                                                                                                                                      18 MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76
                                                                                                                                                                                                                                                                                                                                                                                                                                       45 MQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSE 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RFLVWDHDPI-GRDFIGQRTLAFSSMMPGYRHVYL-----EGMEEASIFVHV 875
                                                                                                                                GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         237;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               h 15.7%; Score 1002; DB 10; Length 567; Similarity 36.1%; Pred. No. 7e-53;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tang, Y. Tom
Zhou, Ping
Goodrich, Ryle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qian, Xiahong
Wang, Dunrui
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wehrman, Tom
Drmanac, Radoje
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Liu, Chenghua
Asundi, Vinod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Montgomery, Julie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ren, Feiyan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Zhao, Qing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Loeb,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative 106; Mismatches 201; Indels 112;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Debra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13;
```

```
da :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-822-635-2
                                                                                                                                                                                                        멂
                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-822-635-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US 60/193,921
PRIOR FILING DATE: 2000-03-31
NUMBER OF SEQ ID NOS: 9
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH
                                              8
                                                                                                     B
                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2, Application US/09822635 Patent No. US20010039331A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 268;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Meyers, Rachel A.
TITLE OF INVENTION: 16836, A HOVEL HUMAN PHOSPHOLIPASE C AND
TITLE OF INVENTION: USES THEREOF
FILE REFERENCE: 10448-035001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/822,635
CURRENT FILING DATE: 2001-03-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Hunter, John J
APPLICANT: Meyers, Rache
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 1809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          311 GDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         343 GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                251 RYEPSDSGKLRHVPSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               431 LVKGKKL--TLEEDL---EYEEEEAEPELEE-------SELAL 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                463 LYKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIK 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    371 AFQTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPEELRRKI 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 512 KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTRQLSRVYPSGLRTGSSIYNPQGY 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                639 MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPF 694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           583 GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           523 ESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKK 582
                                                                                                                                                                                                                                                                                                                                                                                                                      664 SPNLAAGTSSPIRPVSSPVLSSSNKSPSSAWSSSSWH-----
                                              225 EEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQF 284
                                                                                                                                                                                                     764 NLTIDENT-----SDLQPDLDLLTRN-----VSDLGLF---IKSKQQLSDNQRQISD 807
                                                                                                                                                                                                                                                         109 DGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQ 168
                                                                                                                                                                                                                                                                                                           706 GMKGFQSFMVSDSNMSFVEFVELFKSFSVRSRKDLKDLFDVYAVPCNRSG--SESAPLYT 763
                                                                                                     808 AIAAASIVTNGTGIESTSLGIFGVGILQ-LNDFLVNC-----
                                                                                                                                                      169 WLKQTFDEADKNGDGSLSIG----EVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGF 224
                                                                                                                                                                                                                                                                                                                                                               57 GSKGLVRFYYLDEHRSCIRWRP-----SRKNEKAKISIDSIQEVSEGRQSEVFQRYP 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 APPTAGPLPGPALPPEDP-----GPDPESRWLFLSANILPVVERCMGAMQEGMQMVKLRG 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKI 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ESQFETEPEPQ-----
-EHCTYDEILS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative 139; Mismatches 315; Indels 257; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13.2%; Score 840.5; DB 10; Length 1809; 27.4%; Pred. No. 1.8e-42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----EQNLQNKD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----KKKK 484
                                                                                                                                                                                                                                                                                                                                                                                                                              ----- GRIKG 705
                                                                                                             -QG---- 845
```

33,

Query Match

```
; ORGANISM: Physcomitrella patens US-09-828-447-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-828-447-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                               SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 11, Application US/09828447 Patent No. US20020069432A1
                                                                                                                        PRIOR APPLICATION NUMBER: 60/196,001
PRIOR FILING DATE: 2000-04-07
NUMBER OF CENTRAL 2000-04-07
                                                                                                                                                                                                                        APPLICANT: ISHITANI, MANABU
TITLE OF INVENTION: OF USE IN PLANTS
TITLE OF INVENTION: OF USE IN PLANTS
                                                                                                                                                                                                                                                                                                                                        APPLICANT: COSTA E SILVA, OSWALDO DA APPLICANT: BOHNERT, HANS J.
                                                                                                  SOFTWARE:
                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/828,447
CURRENT FILING DATE: 2001-08-20
                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                   NUMBER OF SEQ ID NOS: 41
                                      TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1473 LQLRNLHNEVLEISSLFIN 1491
                                                                           ID NO 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1161 NKKESRQIAPELSDLYIYCQAVKFPGLSTLNASGSSRGKERKSRKSI-----FGNNPG 1213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     861 VYL-----EGMEEASIFVH 874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  520 LIKESK-----IRDCEDPNNFSYSTLSPSG-KLGRKSKAEEDVESGEDAGASRRNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  487 ---SADEIDDD-----C--KL---LNGDASTNRKRVENTAKRK------LDS 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          981 FINSDLPIIISIENHCSLPQQRKMAEIFKTVFGEKLVTKFLFETDFSDDPMLPSPDQLRK 1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRH 860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SPLERD-LDSMDPAVYSLTIVSGQNV-CPSNSM------GSPCIEVDVLGMPLDSCHFR 1414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TKPIHRNTLNPMWNEQELFHVHFEDLVFLRFAVVENN--SSAVTAQRIIPLKALKRGYRH 1472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQ 800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SNPNPLMFWLHGIQLVALNYQTDDLPLHLNAAMFEANGGCGYVLKPPVLWDKNCPMYQKF 136:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RTPK------CYHISSLNENAAKRLCRRYSQKLTQHTACQLLRTYPAATRIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDS 686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RMSPGETASFNKTSGKSS----CEGIRQTWEESSSP------LNPTTSLSAII 1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RLVVG---SFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLV 626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ESLSDDNILEDRPENKSCNDKLQFEYNEEIPKRIKKADNSACNKGKVYDMELGEEFYLDQ 1160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKP-----GCMCQGVF 740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KVLLKNKKLKAHQTPVDILKQKAHQLASMQVQAYNGGNANPRPANNEEEEDEEDEYDYDY 1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HQLKGESSVELYSQVLLQGCRSVELDCWDGDDGMPIIYHGHTLTTKIPFKEVVEAIDRSA 980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKL---DLSSVSSEDATTLPSPQMLKG 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYA 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EPSISMCHQGLMSFEGFARFLMDKENFASKNDESQENIKELQLPLSYYYIESSHNTYLTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EPCPENKSKGLLGIDGFTNYTRSPAGDIF-NPEHHHVHQDMTQPLSHYFITSSHNTYLVG 343
                                                         1054
                                                                                                PatentIn Ver.
                                                                                                                                                                                                                                                                                                      CHEN, ROUYING
                                                                                                                                                                                                                                                                                                                       BOHNERT, HANS J.
VAN THIELEN, NOCHA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       569
```

```
US-09-828-447-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ρy
                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 γΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ġ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                Sequence 12, Application UPatent No. US20020069432A1
            CURRENT APPLICATION NUMBER: US/09/828,447
CURRENT FILING DATE: 2001-08-20
PRIOR APPLICATION NUMBER: 60/196,001
PRIOR FILING DATE: 2000-04-07
NUMBER OF SEQ ID NOS: 41
                                                                                                                                                                                                                                                APPLICANT: COSTA E SILVA, OSWALDO DA APPLICANT: BOHNERT, HANS J. APPLICANT: VAN THIELEN, NOCHA
                                                                                                                                     APPLICANT: ISHITANI, MANABU
TITLE OF INVENTION: SIGNAL TRANSDUCTION STRESS-RELATED PROTEINS AND METHODS
TITLE OF INVENTION: OF USE IN PLANTS
FILE REFERENCE: 16313-0037
SOFTWARE: PatentIn Ver.
                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 218;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         807 NGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRD-FIGORTLAFSSMMPGYRHVYLEG 865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     866 MEEASIFVHVAVSDISGKVKQALGLKGLF 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             972 -VWEPHWNEDHEFYLKCPELALLRIEVRDHDEESQDEFEGQACLPMHEIKDGYRCVQM--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        914 --PGDTKMILKVKVMTTMGWDKAFPKYHFDLFSPPDFFTRLLVTGVPADVAKWKTSVIDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  747 PLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    856 TAAWIHGAQMVAQNMQGYGKELWQAHGKFRGNGGCGYILKPKYLLEDLPNGKPFNPSA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                692 QPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGV-----FNPNSED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             797 TTVED-RLKVEGTVVRISLSETKLEKVTEEFPELVVKFTQRNILRVYPAGNRVNSSNYDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          632 VATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   573 VGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALS-DLVKYTKS 631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      602 AIKANAFVSSKYPVVITLEDHLSSPLQALAAETLTNILGEDL-YYPPSSDGFKELPSPES 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 398 TINKYAFIKNEYPVILSIENHCSVIQQKKNAQYLTDILGDKLDLSSVSSEDATTLPSPOM 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  542 NSYLTGNQLSSDSSDVPTAAALQRGVRVVELDLWPDDKGGIKVTHGNTLTSPVAFEKCIK 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               338 NTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIE 397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              485 RN-ERHKSKFPGFIVSSDLSKGDFKNYVLSP--DLNGVLESTVHQDMTQPLSHYFIFTGH 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         426 FGRKKSKKGDLAQDLLGDVFSTYSEN-GKLDAEGLLKFLQTEQGDSKSSLDDAKHLVELI 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      230 FYKMMSTRRDLYLLML----TYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQF 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----VKSPVEKKIAVPPSEKTKSISEEKDLSEKVGNLRVDSEGESADPAPASSPDG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRK---SKAEEDVESGEDAGASRRNGRLV 572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LKGKILVKGKKLPANISED--AEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKR 515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LKGKILISTKP-PKEYLEAAVAQKSALKDE-----KILNEFKKADKLQEQSTAP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EPCPENKSK------GLLGIDGFTNYTRSDAGDIFNPEHHHVHQDMTQPLSHYFITSSH 337
                                                                                                                                                                                                                                   CHEN, ROUYING
                                                                                                                                                                                                                                                                                                                                                                         Application US/09828447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ------KKATLTADSESDDDD------NKKNPEYARLITIHQSKPSKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative 103; Mismatches 273; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----YDKKGSVLK--GVKMLF 1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11.3%; Score 723.5; DB 10; Length 1054; 31.6%; Pred. No. 1e-35;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       95;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    760
```

SEQ ID NO 12

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; ORGANISM: Physcomitrella patens US-09-828-447-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                       US-09-835-996A-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 200;
                                                                                                                                                                                                                                                                                           Sequence 19, Application US/09835996A Patent No. US20020142953A1
                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                            APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
                                                                                  APPLICANT:
                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 628
    APPLICANT:
                          APPLICANT:
                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    472 NISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCED 531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       195 CVTIEDHLTSELQGHAAEILEQILGDAL-YYPPTTDALVEFPSPESLKRKIIISTK---- 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            352 VDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPV 411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       298 I-----DGFTNYTRSPAGDIFNPEHHHYHQDMTQPLSHYFITSSHNTYLVGDQLMSQSR 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                238 RDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLG 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      373 VD--ESVKRISLSESKLEKVVEKWPEALVKFTQKNILRVYPAANRVNSSNECPTLAWNYG 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         324 PSDLGEATSTRYSKSNDGNDNP------KHFKYARLITIRLAKHAKGTSMEHRLQ 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              583 GSKLKKAASV--EEGDEGODSPGGOSRGATROKKTMKLSRALS-DLVKYTKSVA-THDIE 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              532 PNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRK-------KK 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              754 KQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTW 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            699 COMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGV-----FNPNSEDPLPGQLK 753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               639 MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG 698
                                                                                                                                                                                                                                                                                                                                                                                                                          546 NEDHEFALKCPELALLRIEVRDHDDDSKDEFEGQTCLPIHEVRDGYR 592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18 QDLVGEVFTIYSENERMSAEGLLKFLHTEQGDVDFTLDDAKQIMERIRK-DWKKSFGLAS 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Match 10.7%; Score 685.5; DB 10; Length 628; Local Similarity 30.9%; Pred. No. 1e-33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPA 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DTPIAAALRRGVRVVELDLWPDDKGGMKVTHGNTLTNPVSFQKCVTAIKNNAFFTSEYPV 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INSDLSKEAFRKYLMNP--DLNGVLHNVVHQDMTQPMSHYFIFTGHNSYLTGNQLSSDSS 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LILKIKVMTTLGWDKAFSKRHFDLFSPPDFFTRVIVVGVPADEAKWKTSVV-DNSWAPHW 545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AQMVAQNMQGYGKELWQAFGKFKGNGGCGYVLKPQYLLENLPSGVPFNPTS----PRNTT 486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----TTFAP-----LEENHILGENTPSLRKE----VEVLSQKEMSTPAELNSRS 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                               EETLVFMVHMPEIALVRFLVWDHDPIGRD-FIGQRTLAFSSMMPGYR 859
                                                                                                                                                                                                                                   Ballinger, Dennis
Loeb, Debra
Wehrman, Tom
Drmanac, Radoje
Ren, Feiyan
Qian, Xiahong
                                                                                  Asundi, Vin
Zhao, Qing
                                                                                                                                                                   Montgomery, Julie
Tang, Y. Tom
Zhou, Ping
                                                                                                        Liu, Chenghua
Asundi, Vinod
                                                                                                                                                    Goodrich,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative 104; Mismatches 246; Indels 97;
                                                                                                                                                    Ryle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
```

```
, Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; TYPE: PRT; ORGANISM: Homo sapiens US-09-835-996A-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-908-664-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: Pa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 124; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: MATERIALS AND METHODS RELATING TO LIPID METABOLISM FILE REFERENCE: 28110/35915A CURRENT APPLICATION NUMBER: US/09/835,996A CURRENT FILING DATE: 2001-04-16 PRIOR APPLICATION NUMBER: US/60/197,137
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 22, Application US/09908664 Patent No. US20020115178A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR FILING DATE: 2000-04-14
PRIOR APPLICATION NUMBER: US 09/714,936
PRIOR FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR FILING DATE: 2000-09-22
                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR FILING DATE: 2000-08-03
PRIOR APPLICATION NUMBER: US 09/598,042
                                                SEQ ID NO 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Wang, Dunrui
                                                                                                                 APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Meyers, Rachel
APPLICANT: Rudolph-Owen, Laura
APPLICANT: Tsai, Fong Yin
TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT APPLICATION NUMBER: US 60/218,675
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR FILING DATE: 2000-07-17
PRIOR FILING DATE: 2000-07-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR FILING DATE: 2000-06-20
                                                                       NUMBER OF SEQ ID NOS: 24
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH:
TYPE: PRT
                      LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           343 GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDG 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           283 QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           223 GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 132 QERLDQWLSDWFQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTL 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    163 QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           103 VFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWYTGLRYLMAGISDEDSLARR 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 45 MQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSE 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7 Match 8.2%; Score 522.5; DB 10; Length 340; Local Similarity 37.1%; Pred. No. 3.2e-24; Nes 124; Conservative 53; Mismatches 136; Indels 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77 LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMD----H 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18 MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GDQLCGQSSVEGY----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RYEPSDSGKLRHYLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   340
                         191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PatentIn version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---IRCSGGREG 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
```

```
Search completed: March 28, 2003, 14:00:57 Job time: 46 secs
                                                         Qy
                                                                                                                                      QΥ
                                         В
                                                                              В
                                                                                                 ρ
                                                                                                                                                              Ъ
                                                                                                                                                                              Qy
                                                                                                                     밁
                                                                                                                                                                                                                                         ; ORGANISM: Artificial Sequence ; FEATURE: OTHER INFORMATION: Consensus amino acid US-09-908-664-22
                                                                                                                                                                                             Ouery Match 8.1%; Score 515; DB 10; Length 191; Best Local Similarity 53.4%; Pred. No. 4.3e-24; Matches 101; Conservative 29; Mismatches 51; Indels 8; Gaps
                                                                                                                                                     479 EGEVSDEDS 487
                                                                        181 EEKKTDEET 189
                                                                                                                                                                                               4;
```

```
Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             No.
pred. No.
score grea
and is der
189
180
179
177.5
177.5
175.5
175.5
175.5
175.5
175.7
175.7
175.7
175.7
175.7
175.7
175.7
175.7
175.7
175.7
175.7
175.7
175.7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, s derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Issued_Patents_AA:*

1: /cgn2_6/ptodata/1/

2: /cgn2_6/ptodata/1/

3: /cgn2_6/ptodata/1/

4: /cgn2_6/ptodata/1/
5: /cgn2_6/ptodata/1/
6: /cgn2_6/ptodata/1/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     March 28, 2003, 13:48:00 ; Search time 31 Seconds (without alignments) 1145.596 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-927-112-2
6379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   262574 seqs, 29422922 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MAPPTAGPLPGPALPPEDPG.....ALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /cgn2_6/ptodata/1/1aa/5A_COMB.pep:*
/cgn2_6/ptodata/1/1aa/5B_COMB.pep:*
/cgn2_6/ptodata/1/1aa/5B_COMB.pep:*
/cgn2_6/ptodata/1/1aa/6B_COMB.pep:*
/cgn2_6/ptodata/1/1aa/6B_COMB.pep:*
/cgn2_6/ptodata/1/1aa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/1/1aa/backfiles1.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                      1290
1290
2972
3118
960
1064
1057
696
696
252
1057
  1442
1078
1078
1078
1078
1078
1336
1336
1336
1336
1336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB
US-09-738-884-4
US-09-738-884-2
US-09-738-884-2
US-08-138-641-2
US-08-138-133-2
US-08-138-133-2
US-09-579-181-1
US-09-579-181-1
US-09-579-181-1
US-08-931-820-1
US-08-931-820-4
US-09-129-68-4
US-09-129-68-4
US-09-247-806-2
US-08-931-820-1
US-08-931-820-1
US-08-931-820-1
US-08-931-820-1
US-08-940-885-21
US-08-940-0868-21
US-08-940-0868-58
US-08-940-0358-58
US-08-940-0358-58
US-08-945-558-58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 4,
Sequence 2,
Sequence 5,
Sequence 2,
Sequence 2,
Sequence 2,
Sequence 1,
                                                                                                              Sequence 5, Al Sequence 1, Al Sequence 1, Al Sequence 4, Al Sequence 61, Al Sequence 2, Al Sequence 2, Al Sequence 12, Sequence 12, Sequence 21, Sequence 58, Seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Description
                                Sequence
Sequence
Sequence
     Sequence
                                                       2, Appli
2, Appli
2, Appli
2, Appli
2, Appli
2, Appli
3, Appli
5, Appli
4, Appli
4, Appli
4, Appli
4, Appli
5, Appli
1, Appli
1, Appli
2, Appli
2, Appli
3, Appli
3, Appli
3, Appli
4, Appli
4, Appli
5, Appli
6, Appli
6, Appli
6, Appli
9, Appli
9, Appli
9, Appli
12, Appli
9, Appli
9,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ١,
                                                                                                                                                                                                                                                                                                                                                                                                                                   ``.
                                  Š
```

OU OU HE HE OU OU OU HE OU	DO SE	20 20 30 31 31 33 33 34 44 44 44 44 44 44 44 44 44 44
738 738 44 Loc ches 69 160 125 127 217 1184 1184 1184 1277 2377 240 2337	T 1 -73; -73; PLICE TILE TILE TRREE TRREE TRREE TRREE TILE TRREE TILE TRREE TILE TRREE TILE TRREE T	16
884-44 tch al Si 306; 306; ::: ALLEG QSEVF ::: CODII DHOGT DHOGT DHOGT HNTYI HNT	8-884-4 10ce 4, Appl 10c 4, Appl 10c No. 63911 10ce 10ce 10ce 10ce 10ce 10ce 10ce 10ce	172 172 172 172 172 172 172 172 172 172
PDGS PDGS PDGS PDGS PDGS PDGS PDGS PDGS	ica 506 506 FION FION DATIO	
	Ti ODE 9 OT I	595 595 822 1341 1341 1341 1341 1461 1461 1461 1418 1418 1418 1418 960 633 633 633
20.1%; SCORE 35.7%; Pred. 35.7%	US/09738884 US/09738884 rl et al OLATED HUMAN UCLEIC ACID ROTEINS, AND 49 2000-12-18 5 Windows Vers Windows Vers	444WWWAAA4H4H
18; Score 1281; DB 4; LA 78; Pred. No. 2.4e-90; 9 128; Mismatches 278; 128; Mismatches 278; 128; Mismatches 278; 111 111	All 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- SD - SD
Score 1281; DB 4; LA Pred. No. 2.4e-90; 3; Mismatches 278; 3; Mismatches 278; 3; Mismatches 278; 3; Mismatches 278; 3; CDEDCKTI-WQESRKVMRSPES COEDCKTI-WQESRKVMRSPES COEDCKTI-WQESRKVMRSPES COEDCKTI-WQESRAPHVO COEDCKTI-WQESRAPHKDHLDAASLOR:	ALIGI ALIGI AN PHO MOLUSI NO MOLUSI	000000000000000000000000000000000000000
e 1281; NO. 2 ismatch ismatch	, E E C C	219-E 219-E 219-E 219-E 2500-E 5500-E 5500-E 5585-E 9-1 289-1 299-
1281; I NO. 2.44 NO. 2.44 NO. 2.44 NO. 2.54 I	ENTS PHOLIPA ULES EN THEREO 884	3449-3449-3449-3449-3449-3449-345508-35508
DB 4; 4e-90; s 278 s 278 s 278 s 278 s EVART	IPAS ENC	-118 -20 -20 -20 -20
B 4; Le: -90; 278; INEKA H: H: VMRSPESO VARTWVTG H: H: DAQHWVGG LAHRRVYG H: H: SVEKLVTF PEHHHVHG H: H: SVEKLVTF PEHHFVYG H: H: SVEKLVTF PEHHFVYG H: H: H: H: H: H: H: H: H: H: H: H: H: H: H:	ODI E	
DB 4; Lengt e-90; 278; Inde kNEKAKIS	ING H	
1281; DB 4; Length 744; NO. 2.4e-90; smatches 278; Indels 144; CIRWRPSRKNEKAKISIDSIQEVS;	HOMAN	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
h 744; ls 14, ls 14, le	PHOS	Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence
CRCUELDCORDGEPDGEPTHRYTHSTEILFEDUTGCREAGASTILFYDVIGCRECAGORD CORRECT CONTROL C	ТОНФЗС	nce nce nce nce nce nce nce nce nce nce
Gallin Callin Ca	OLIPA	48 118 118 118 118 118 118 118 118 118 1
ps 99 159 124 124 216 216 239 239 336 359	ASE	Appl Appl Appl Appl Appl Appl Appl Appl

```
Sequence 2, Application US/09738884
Patent No. 6391506
GENERAL INFORMATION:
APPLICANT: GUEGLER, Karl et al
TIFLE OF INVENTION: ISOLATED HUMAN PHOSPHOLI
TIFLE OF INVENTION: NUCLEIC ACID MCLECULES
TIFLE OF INVENTION: PROTEINS, AND USES THER
FILE REFERENCE: CL000849
CURRENT APPLICATION NUMBER: US/09/738,884
CURRENT FILING DATE: 2000-12-18
NUMBER OF SEQ ID NOS: 5
SOFTWARE: FastSEQ for Windows Version 4.0
SEC IT NO 2
                                                                                                                                                       В
                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                              US-09-738-884-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-738-884-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вp
                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 2
LENGTH: 736
                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Human
             221 TLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDI 280
                                                         126 QRERL-DHWIHSYLHRADSNQDSKMSFKEIKSLLRMVNVDMNDMYAYLLFKECDHSNNDR 184
                                                                                                                                                                   101 SEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWYTGLRYLMAGISDEDSLA 160
                                                                                                                                                                                                                                                                 44 AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW----RPSRKNEKAKISIDSIQEVSEGRQ 100
                                                                                                                                                                                                                                           11
                                                                                                                                                                                                                                                                                                                          Local Similarity
nes 297; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 728 NGDQHPSATLFVKISL 743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        864 -- EGMEEASIFVHVAV 877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    552 SPVEMWNGGCQIVALNFQTPGPEMDVYLGRFQDNGACGYVLKPAFLRDPDTAFNPRALTQ 611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                690 NPOPFWNAGCOMVALNYOSEGRMLOLNRAKFSANGGCGYYLKPGCM--CQGVFNPNSEDP 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            492 HFGGFSNPSTSGQAFYEMASFSENRALRLLQESGNNFVRHNVSHLSRIYPAGRRTDSSNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 633 ATHDIEMEAASS---WQVSSFSETKAHQILQQKPAQYLRENQQQLSRIYPSSYRVDSSNY 689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   573 VGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSV 632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  513 AKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLV 572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                419 QLKGKILLKGKKFGGLLPAGGENGPETTDVSDEDEAAEMEDE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               457 MLKGKKILVKGKK----LPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENT 512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              461 --
                                                                                                RRORTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQG 220
                                                                                                                                        SEGLRRF-GGAFAPARCLTIAFKGRRKNLDLAAPTAEEAQRWVRGLTKLRARL---DAMS 125
                                                                                                                                                                                                                          AMLRGSRLRKIRSRTWHKERLYRLQEDGLSV-WFQRRIPRAPSQHIFFVQHIEAVREGHQ 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENPWWDTEFEFEVAVPDLALVRFVVEDYDASSKNDFIGQSTIPWNSLKQGYRHVHLLSK 727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDN 807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VRSQVQQKSKEDKLNVAPE------491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RAIRDYAFKASPYPVILSLENHCSLEQQQVMARHLKAILGPML-LDQPLDGVTMSLPSPE 418
                                                                                                                                                                                                                                                                                                                      Conservative 129;
    -----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ISOLATED HUMAN PHOSPHOLIPASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN PHOSPHOLIPASE PROTEINS, AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                          20.0%;
                                                                                                                                                                                                                                                                                                         Score 1278.5; DB 4; Length 736;
Pred. No. 3.7e-90;
29; Mismatches 273; Indels 159; Gaps
- - - ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----A 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              460
                                                                                                                                                                                                                                                                                                               18;
```

Ş 밁 Ş Q

```
da ;
                                Ş
                                                                                                                                                        US-09-738-884-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-738-884-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                         Matches 308;
                                                                                                               Query Match
                                                                                                                                                                                                                                        SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 5, Application US/09738884 Patent No. 6391606
                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/738,884
CURRENT FILING DATE: 2000-12-18
                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 5
                                                                                                                                                                                                                                                                                                                                       FILE REFERENCE: CL000849
                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: GUEGLER,
                                                                                                                                                                                                                                                       SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                     TYPE: PRT
ORGANISM: Mus musculus
                                                                                                                                                                                                                     LENGTH: 744
44 AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            864 ----EGMEEASIFVHVAV 877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 806 DNGFNPTWEETLVEMVHMPEIALVRELVWDHDPIG-RDFIGQRTLAFSSMMPGYRHVYL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        716 SKDGASLSPATLFIQIRI 733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             656 NNGFNPRWGQTLQFQLRAPELALVRFVVEDYDATSPNDFVGQFTLPLSSLKQGYRHIHLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          604 PPRTTLSIQVLTAQQLPKLNAEKPH-----SIVDPLVRIEIHGVPADCARQETDYVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          548 EMWNSGCQLVALNFQTPGYEMDLNAGRFLVNGQCGYVLKPACLRQ----PDSTFDPEYPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               751 QLKKQLVLRIISGQQLP-----KPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVD 805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 693 PFWNAGCOMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSE-DP-LPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       488 RTLHPAPNAPQPCQVSSLSERKAKKLIREAGNSFVRHNARQLTRVYPLGLRMNSANYSPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            635 HDIE--MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              575 SFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVAT 634
                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      465 RRL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           515 RKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVG 574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    423 RVLVKGKKLPAARSEDGRALSDREEGEEDDEEEEEE-------VEAAAQ 464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           461 KILVKGKKLPANISEDA------EEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAK 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    363 DHAFTLSPYPVILSLENHCGLEQQAAMARHLCTILGDMLVTQALDSPNPEELPSPEQLKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              401 KYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSSEDATTLPSPQMLKG 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    303 LTDSQIGGPSSTEATVRAFAQGCRCVELDCWEGPGGEPVIYHGHTLTSKILFRDVAQAVR 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        341 LVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETIN 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   243 IQTYELNETAKQHELMTLDGFMMYLLSPEGTALDNTHTCVFQDMNQPLAHYFISSSHNTY 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               185 LEG-AEIEEFLRRLLKRPELEEIFHQYSGEDRVLSAPELLEFLE-DQGEEGATLARAQQL 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTY 340
                                                                    Conservative 128;
                                                                                                                                                                                                                                                                                                                                                                     ISOLATED HUMAN PHOSPHOLIPASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                           Karl et al
                                                                                                                                                                                                                                                                                                                                                    PROTEINS, AND USES THEREOF
                                                            19.8%; Score 1262; DB 4; 35.9%; Pred. No. 7.1e-89; tive 128; Mismatches 274;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----AKQISPELSALAVYCHATRL 487
                                                                                                       Length 744;
                                                            Indels 148; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      422
                                                            19;
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                          RESULT 4
US-08-138-641-2
US-08-138-641-2
; Sequence 2, Application US/08138641
; Patent No. 5474921
; Patent No. 5474921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                  Dp
                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                               맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                    GENERAL INFORMATION:
                                                  APPLICANT: Koblan, Kenneth S.
APPLICANT: Pompliano, David L.
TITLE OF INVENTION: ASSAY TO DETERMINE INHIBITORS OF
TITLE OF INVENTION: PHOSPHOINOSITIDE-SPECIFIC PHOSPHOLIPASE C-GAMMA
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100 QSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSL 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            511 NTAKRKLDSLIKESKIRDCEDPNNFSYSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGR 570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     571 LVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTK 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          468 H----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10 ALLKGSQLLKVKSSSWRRERFYKLQEDCKTI-WQESRKVMRSPESQLFSIEDIQEVRMGH 68
                ADDRESSEE: David A. Muthard STREET: P.O. Box 2000, 126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ARRORTROQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD----TD 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VLRAIRDYAFKASPYPVILSLENHCSLEQQRVMAHHLRAILGPML-LDQPLDGVTTSLPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKD 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----SLEDEEIETFYRMLTQRAEIDRAFAEAAGSAETLSVEKLVTFLQHQQREEEAGPAL 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQK--MAGVTL 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DQRQKLQ-HWIHSCLRKADKNKDNKMNFKEVKDFLKELNVQVDDSYARKIFRECDHSQTD 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RTEGLEKFA-RDIPEDRCFSIVFKDQRNTLDLIAPSPADVQHWVQGLRKI---IDRSGSM 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SVATHDIEMEAASS----WQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSS 687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PQMLKGKILVKGKK----LPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVE 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSHNTYLLEDQLTGPSSTEAYIRALCKGCRCLELDCWDGPNQEPIIYHGYTFTSKILFCD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --ALSLIERYEPSETAKAQRQMTKDGFLMYLLSADGNAFSLAHRRVYQDMNQPLSHYLVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFIT 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSE 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SVHFGGFSSPSTSGQAFYEMASFSESRALRLLQESGNSFVRHNVGHLSRIYPAGWRTDSS 549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----KLKLVPELSDMVIYCK 489
                                                                                                                                                                                                                                                                                                                                                                                      NNGFNPRWDTEFEFVVAVPDLALVRFMVEDYDSSSKNDFIGQSTIPWNSLKQGYRHVHLL 725
                                                                                                                                                                                                                                                                                                                                                                                                                      DNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYLE 864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TQGPWWAPKKLRVWIISGQQLPKVNK----NKNSIVDPKVIVEIHGVGQDVASRQTAVIT 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVD 805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PEQLKEKILLKGKKLGGLLPAGGENGPEATDVSDEDEAAEMEDEAV-----RSQVQ
                                                                                                                                                                                                                                                                                                        SKNGDLHPSATLFVKISI 743
                                                                                                                                                                                                                                                                                                                                           GME-----EASIFVHVAV 877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NYSPVEMWNGGCQIVALNFQTPGPEMDVYLGCFQDNGGCGYVLKPAFLRDPDTTFNSRAL 609
Rahway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----KPKED-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                      Š
                                                                                                                                                                                               밁
                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멍
                                          밁
                                                                             δÃ
                                                                                                                   밁
    S
```

```
; MOLECULE TYPE: protein US-08-138-641-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (908) 594-47
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 07065
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       118 KTLSLQATSEDEVNMWIKGLTWLM-----EDTLQAATPLQIERWLRKQFYSVDRNREDRI 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   242 LLML----TYSNHKDHLDAASLQRF-------LQVEQKMAGVTLESCQDII 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
530
                                                                                                                                                                                                                                                    458 KILIKHKKLAEGSAYEEVPTSVMYSENDISNSIKNGILYLEDPVNHEWYPHYFVLTSSKI 517
                                                                                                                                                                                                                                                                                                        461 KILVKGKKLPA------NISEDAEEG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        74 IRWRPSRKNEKAKISID--SIQEVSEGRQSEVFQRY-PDGSF--DPNCCFSIYHGS--HR 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS:
TOPOLOGY: lir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Muthard, David A.
NAME: Muthard, David A.
35,297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: New Jersey
                                             578 APDGSFLVRESETFVGDYTLSFWRNGKVQHCRIHSRQDAGTPKFFLTDNLVFDSLYDLIT 637
                                                                                                                                                 518 YYSEETSSDOGNEDEEEPKEASGSTELHSSEKWFHGKLGAGRDGRHIAERLLTEYCIETG
                                                                                                                                                                                                 481 ---EVSDEDSADEIDDDCKLLNGDASTNRKRV-----ENTAKRKLDS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                   KYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ESLDLYSTSSEVARTWYTGLRYLMAGISDEDSL-ARRQRTRDQWLKQTFDEADKNGDGSL 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ITW--SRGADKIEGSIDIREIKEIRPGKTSRDFDRYQEDPAFRPDQSHCFVILYGMEFRL 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                            LTGDQFSSESSLEAYARCLRMGCRCIELDCWDGPDGMPVIYHGHTLTTKIKFSDVLHTIK 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LYGDQLMSQSRYDMYAWYLQAGCRCYEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETIN 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EPY-----FFLDELVTFLFSKENSVWNSQLDAVCPETMNNPLSHYWISSSHNTY 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHV-HQDMTQPLSHYFITSSHNTY 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LPFLETNTLRTGERPELCQVSLSEFQQFLLEYQGELWAVDRLQVQEFMLSFLRDPLREIE 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SAKDLKNMLSQVNYRVPNMR----FLRERLIDFEQRSGDITYGQFAQLYRSLMYSAQKTMD 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQ--GTLGFEEFCAFYK--MMSTRRDLY 241
                                                                                                                                                                                                                                                                                                                                                        EHAFVASEYPVILSIEDHCSIAQQRNMAQHFRKVLGDTL-LTKPVDIAADGLPSPNQLKR 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    303;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1290 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (908)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (908) 594-3903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8) 594-4720

594-4720

NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15.4%; Score 985; DB 1; Length 1290; 25.6%; Pred. No. 4e-67;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US/08/138,641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    157; Mismatches 313; Indels 410;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---KIRDC---
        ----E 530
```

577 519

	Z E		× ;	8	A	SYSTEM: PC-DOS/MS-DOS		ZIP: 07065	STATE: NEW JERSEY COUNTRY. IT S A	STREET: P.O. BOX 2000, 126 E. LINCOLN AVENUE	CE ADDRESS	א סי	": MACLEOD,	GIBBS, JA	RMATION:	Sequence 2, Application US/08138133	RESULT 5	Db 1169 DONELAGATEPVKGLKTGYRAVPLKNNYSEDLELASLLIKIDI 1211	Qy 841 -RDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVAV 877	Db 1109 CPFVEIEVAGAEYDSTKCKTEFVVDNGLNPVWPAKPFHFQISNPEFAFLRFVVYEEDMFS 1168	OY 782 DPFVEVEIIGLPVDCSREQTRVVDDNGFNPTW-EETLVFNVHMPEIALVRFLVWDHDPIG 840	PSTMRDEAF	QY 722 ANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEII 781	Db 996 KGKKFLQYNRLQLSRIYPKGQRLDSSNYDPLPMWICGSQLVALNFQTPDKPMQMNQALFM 1055	QY 662 KPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFS 721	ALE	OY 605 QSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQ- 661	Db 877 DVPACQIAIRPEGKNNRLFVFSISMPSVAQWSLDVAADSQEELQDWVKKIREVAQTADAR 936	QY 567RNGRLYVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGG 604	Db 817 IIQNVEKQDGGWWRGDYGGKKQLWFPSNYVEEMINPAILEPEREHLDENSPLGDLLRGVL 876	QY 560 EDAGASR 566	Db 757 NEEALEKIGTÄEPDYGALYEGRNPGFYVEANPMPTFKCAVKALFDYKAQREDELTFTKSA 816	QY 552	Db 698 EPNSYAIS-FRAEGKIKHCRVQQEGQTVMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPI 756	Oy 531 DPNNFSVSTLSPSGK 551	Db 638 HYQQVPLRCNEFEMRLSEPVPQTNAHESKEWYHASLTRAQAEHMLMRVPRDGAELVRKRN 697
•	Qy	dd .	, Qy	Db	Оу	Db	ν	Db	ν	Db	Qy	Db	Qy	Db	Qy	Db	Qy	Db	νg	ДЬ	νg	Db	Qy	מם	- Qy	Db	VQ VQ	<u></u>	Qy				· · · ·	٠. ٠.		:
	567	817 IIQNV	560	757 NEEAL	552	698 EPNSY	531 DPNNF	638 НҮДДҮ	530	578 APDGS	520	518 YYSEE	481EV	458 KILIR	461 K	399 EHAFV	401 KY	339	341 LVGDQ	290	282	230 LPFL	242 LLML	173 SAKD	/ 186 SIGE	118 KTLS	127	60		Best Local S Matches 303		MOLECULE S-08-138-133-	STRANDE TOPOLOG	LENGTH: TYPE:	INFORMATION SEQUENCE	TELEPHO TELEFAX

```
H: 1290 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               amino acid
EDNESS: sin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EKQDGGWWRGDYGGKKQLWFPSNYVEEMINPAILEPEREHLDENSPLGDLLRGVL 876
                                                                                                                                                                                                                                                                                      SVSTLSPSGK----- 551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ETSSDQGNEDEEEPKEASGSTELHSSEKWFHGKLGAGRDGRHIAERLLTEYCIETG 577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LVSTSSEVARTWVTGLRYLMAGISDEDSL-ARRQRTRDQWLKQTFDEADKNGDGSL 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PSRKNEKAKISID--SIQEVSEGRQSEVFQRY-PDGSF--DPNCCFSIYHGS--HR 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: protein 2
-----RNGRLYVGSFSRRKKKGSKLKKAASVEE-----GDEGQDSPGG 604
                                                                                                                                                   EKIGTAEPDYGALYEGRNPGFYVEANPMPTFKCAVKALFDYKAQREDELTFTKSA 816
                                                                                                                                                                                                 AIS-FRAEGKIKHCRYQQEGQTVMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPI 756
                                                                                                                                                                                                                                                                                                                                PLRCNEFEMRLSEPVPQTNAHESKEWYHASLTRAQAEHMLMRVPRDGAFLVRKRN 697
                                                                                                                                                                                                                                                                                                                                                                                                                     FLVRESETFVGDYTLSFWRNGKVQHCRIHSRQDAGTPKFFLTDNLVFDSLYDLIT 637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SDEDSADEIDDDCKLLNGDASTNRKRV-----ENTAKRKLDS----- 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (HKKLAEGSAYEEVPTSVMYSENDISNSIKNGILYLEDPVNHEWYPHYFVLTSSKI 517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ASEYPVILSIEDHCSIAQQRNMAQHFRKVLGDTL-LTKPVDIAADGLPSPNQLKR 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |KNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHV-HQDMTQPLSHYFITSSHNTY 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ETNTLRTGERPELCQVSLSEFQQFLLEYQGELWAVDRLQVQEFMLSFLRDPLREIE 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----TYSNHKDHLDAASLQRF------LQVEQKMAGVTLESCQDII 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VLQLLHKLNVNLPRQRVKQMFREADTDDHQ--GTLGFEEECAFYK--MMSTRRDLY 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LQATSEDEVNMWIKGLTWLM-----EDTLQAATPLQIERWLRKQFYSVDRNREDRI 172
                                                                                                                   --EDAGASR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -LIKES------ 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ------FFLDELVTFLFSKENSVWNSQLDAVCPETMNNPLSHYWISSSHNTY 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LKNMLSQVNYRVPNMR---FLRERLTDFEQRSGDITYGQFAQLYRSLMYSAQKTMD 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -SRGADKIEGSIDIREIKEIRPGKTSRDFDRYQEDPAFRPDQSHCFVILYGMEFRL 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15.4%; Score 985; DB 1; Length 1290;
25.6%; Pred. No. 4e-67;
ative 157; Mismatches 313; Indels 410; Gaps
                                                                                                            ----- 566
```

```
δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-579-181-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Human US-09-579-181-2
                                                                                                                               밁
                                                                                                                                                                             Š
                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
Ş
                                           밁
                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2, Application US/09579181 Patent No. 6365372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 3.0%; Score 192; DB 4; Length 2972; Best Local Similarity 19.6%; Pred. No. 2.4e-05; Matches 187; Conservative 121; Mismatches 326; Indels 318;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 2
LENGTH: 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Chrivia, John APPLICANT: Yaciuk, Peter TITLE OF INVENTION: SNF2 REFILE REFERENCE: 16153-4247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/579,181
CURRENT FILING DATE: 2000-05-25
PRIOR APPLICATION NUMBER: 60/136,620
PRIOR FILING DATE: 1999-05-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1169 DQNFLAQATFPVKGLKTGYRAVPLKNNYSEDLELASLLIKIDI 1211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              877 DVPACQIAIRPEGKNNRLFVFSISMPSVAQWSLDVAADSQEELQDWVKKIREVAQTADAR 936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  406 KNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSED-ATTLPSPQMLKGKILV 464
                                                                                                                                                                                                                                                                                                                                                                                                             231 ---DHAMELSELAREGELSMEELLQQYAGAYAPGSGSSEDEDEDEVDANSSDCE-PEGPV 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                              465 KGKKLPANISEDAEEGEVS-------DEDSADEIDDDCKLLNGDA 502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       173 EEEPPQVLEIKPPPSAVTQRNKQPWHPDEDDEEFTANEEEAEDEEDTIAAEEQLEGEV-- 230
                                                                                                                                                                                                                             344 DEEEEDDDFGVEYLLARDEEQSE-----ADAGSGPPTPGPTTLGPKKEITDIAAAAES 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QSRGATRQKKTMKLSRALSDLVKYTKSVATHD--IEMEAASSWQVSSFSETKAHQILQQ- 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFS 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LTEGKMMERR-KKIALELSELVVYCRPVPFDEEKIGTERACYRDMSSFPETKAEKYVNKA 995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -RDFIGQRTLAFSSMMPGYRHV----YLEGMEEASIFVHVAV 877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CPFVEIEVAGAEYDSTKQKTEFVVDNGLNPVWPAKPFHFQISNPEFAFLRFVVYEEDMFS 1168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DPFVEVEIIGLPVDCSREQTRVVDDNGFNPTW-EETLVFMVHMPEIALVRFLVWDHDPIG 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGHCGYYLQPSTMRDEAFDPFDKSSLRGLEPCVICIEVLGARHLPK-----NGRG-IV 1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ANGGCGYYLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEII 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRG------
                                                                                                                                                                                                                                                                                                                       EAEEPPQEDSSSQS-DSV--EDRSEDEEDEHSEEEETSGSSASEESESEDAQSQSQA 343
                                        ISLLAHLACEKGNWGPHLIIVPTSVMLNWEMELKRWCPSFKILTYYGAQKERKLKRQGWT 516
                                                                                                                                                                                                                                                                                                                                                                  STNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDA 562
                                                                                                                                    LQPKGYTLATTQVKTPIPLLLRGQLREYQHIGLDWLVTMYEKKLNGILADEMGLGKTIQT 456
                                                                                                                                                                                -----ATRQKKT------634
                                                                                      HDI-----SETKA-----EMEA---ASSWQVSSF----SETKA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SNF2 Related CBP Activator Protein (SRCAP)
  --HQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQ----- 692
                                                                                                                                                                                                                                                                                  608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       42;
```

```
Oy Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 7
                                                                                                     밁
                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                        ; ORGANISM: Human
US-09-579-181-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-579-181-1
밁
                                                δÃ
                                                                                                                                                                                                                                                                                                                                                        ; SOFTWARE: Pate
; SEQ ID NO 1
; LENGTH: 3118
; TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Chrivia, John
APPLICANT: Yaciuk, Peter
APPLICANT: Yaciuk, Peter
TITLE OF INVENTION: SNF2 Related CBP Activator Protein (SRCAP)
FILE REFERENCE: 16153-4247
FILE REFERENCE: 16153-4247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1, Application US/09579181 Patent No. 6365372
                                                                                                                                                                                                                        Query Match 3.0%; Score 192; DB 4; Length 3118; Best Local Similarity 19.6%; Pred. No. 2.6e-05;
                                                                                                                                                                                                     Matches 187;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/579,181
CURRENT FILING DATE: 2000-05-25
PRIOR APPLICATION NUMBER: 60/136,620
PRIOR FILING DATE: 1999-05-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1113 -----RWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAG--KPL 1153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1061 APCCG----LDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIPERSP---- 1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1001 RYLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSIG 1060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          517 KPNAFHYCITSYKLYLQDHQAFRRKNWRYLILDEAQNIKNFKSQRWQSLLNFNSQRRLLL 576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       577 TGTPLQNSLMELWSLMHFLMPHVFQSHRE------FKEWFSNPLT 615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          693 ---PFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLP 749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       750 GQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPF----VEVEI-IGLP------VDC-- 796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    724 ICFSTASLVLRATDVHPLQRIDM------GRF-DLIGLEGRVSRYEADTFLPRHRL 772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      922 APPPGSSSLLKPLTVP------PG-YTFPPAAATTTSTTTATATTTAVPAPTPAPQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      972 LILSPDMQARLPSGEVVSIGQL----ASLAQR-----PVANAGGSKPL 1010
377 --- DHAMELSELAREGELSMEELLQQYAGAYAPGSGSSEDEDEDEVDANSSDCE-PEGPV 432
                                                  319 EEEPPQVLEIKPPPSAVTQRNKQPWHPDEDDEEFTANEEEAEDEEDTIAAEEQLEGEV-- 376
                                                                                                                                                  406 KNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSED-ATTLPSPQMLKGKILV 464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SRRVLLEVATAPDPPPRPKPVKMKVNRMLQPVP----KQEGRTVVVVNNPRAPLGP----- 824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SKRQRCLYDDFMAQTTTKETLATGHFMSVINILMQLRKVCNHPNLFDPRPVTSPFI-TPG 723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SREQTRVVDDNGFNPTWEETLVFMVHMPEIALVREL-----VWDHDPIGRDFIGQRT 848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KGVADDVVPPGPGPAPEAPAQEGPG------SGSPRGKAPAAVAEKSPVRVRPP 1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GR------PPARPS-VSQRILRRTASAPTKSQKPGRR----GFPELVLGTRDTGS 952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAA 908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G------MIEGSQ--EYNEGLVKRLHKVLRPFLLRRVKVDVEKQMPKKYEHVIRCRL 664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PLOPNSG-----SLPQVLPSPLGVLSG---TSRPPTP----TLSLKPTPPAPVRLSP 921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----VPVRPPPGPELSAQPTPGPVPQVLPASLMVSASPAG-PPLIPASRPPGPVLLP
                                                                                                                                                                                                                                                                                                                                                                                                                                PatentIn Ver. 2.0
                                                                                                                                                                                                        Conservative 121; Mismatches 326;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                17
                                                                                                                                                                                                          Indels 318;
                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                             42;
```

```
US-09 219-849-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                            Sequence 5, Application US/09219849 Patent No. 6150081
                                                                                                                                                                       APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                          GENERAL INFORMATION:
    TITLE OF INVENTION:
                                            TITLE OF INVENTION:
                                                                     APPLICANT:
                                                                                                                                 APPLICANT:
                                                                                                                                                     APPLICANT:
                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                             1118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 750 GQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPF----VEVEI-IGLP-----VDC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           723 TGTPLQNSLMELWSLMHFLMPHYFQSHRE------FKEWFSNPLT 761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           635 HDI-----SETKA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              663 KPNAFHYCITSYKLYLQDHQAFRRKNWRYLILDEAQNIKNFKSQRWQSLLNFNSQRRLLL 722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     543 LQPKGYTLATTQVKTPIPLLLRGQLREYQHIGLDWLYTMYEKKLNGILADEMGLGKTIQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             503
                                                                                                                                                                                                                                                                                                                                                                             LILSPDMQARLPSGEVVSIGQL-----ASLAQR-----PVANAGGSKPL 1156
                                                                                                                                                                                                                                                                                                                                                                                                                      ------RWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAG--KPL 1153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APCCG----LDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIPERSP----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLG 1060
                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPPGSSSLLKPLTVP-----PG-YTFPPAAATTTSTTTATATTTAVPAPTPAPQR 1117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PLQPNSG-----SLPQVLPSPLGVLSG---TSRPPTP----TLSLKPTPPAPVRLSP 1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----VPVRPPPGPELSAQPTPGPVPQVLPASLMVSASPAG-PPLIPASRPPGPVLLP 1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KGVADDVVPPGPGPAPEAPAQEGPG------SGSPRGKAPAAVAEKSPVRVRPP 1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SRRVLLEVATAPDPPPRPKPVKMKVNRMLQPVP---KQEGRTVVVVNNPRAPLGP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GR------PPARPS-VSQRILRRTASAPTKSQKPGRR----GFPELVLGTRDTGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ICFSTASLVLRATDVHPLQRIDM------GRF-DLIGLEGRVSRYEADTFLPRHRL 918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAA 908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SREQTRYVDDNGFNPTWEETLVFMVHMPEIALVRFL-----VWDHDPIGRDFIGQRT 848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G------MIEGSQ--EYNEGLVKRLHKVLRPFLLRRVKVDVEKQMPKKYEHVIRCRL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SKRQRCLYDDFMAQTTTKETLATGHFMSVINILMQLRKVCNHPNLFDPRPVTSPFI-TPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---PFWNAGCOMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLP 749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ISLLAHLACEKGNWGPHLIIVPTSVMLNWEMELKRWCPSFKILTYYGAQKERKLKRQGWT 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEEEEDDDFGVEYLLARDEEQSE-----ADAGSGPPTPGPTTLGPKKEITDIAAAAES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----ATROKKT----- 634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EAEEPPQEDSSSQS-DSV--EDRSEDEEDEHSEEEETSGSSASEESESEESEDAQSQSQA 489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRG-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDA 562
                        INVENTION:
                                                                                                                                              VAN HEERDE, GEORGE V.
VAN RIJN, ALEXIS C.
BOUWSTRA, JAN B.
DE WOLF, FREDERIK A.
        WIND, RICHELE D.

VAN DEN BOSCH, TANJA J.

VENTION: SILVER HALIDE EMULSIONS WITH RECOMBINANT COLLAGEN

VENTION: SUITABLE FOR PHOTOGRAPHIC APPLICATION AND ALSO THE
                                                                                                      WERTEN, MARC W.T.
                                                                                                                            MOOBROEK, ANDREAS
PREPARATION THEREOF
                                                                                                                                                                                                                 GEORGE V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ---HQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQ-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             655
```

Qy

B Q

Ş 밁

밁 Ωy Дb Qy DЪ Ş DЬ Ş 밁

```
US-08-642-255-62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-219-849-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 62, Application US/08642255 Patent No. 5773249 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: Par
SEQ ID NO 5
LENGTH: 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/219,849
CURRENT FILING DATE: 1998-12-23
NUMBER OF SEQ ID NOS: 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILE REFERENCE:
                                                        REGISTRATION NUMBER: 20,015
REFERENCE/DOCKET NUMBER: A55556-3/BIR
TELECOMMUNICATION INFORMATION:
                                                                                                                             CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: CAPPELLO, Joseph
APPLICANT: FERRARI, Franco A.
TITLE OF INVENTION: High Molecular Weight Collagen-Like
TITLE OF INVENTION: Protein Polymers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
                                                                                                                                                                                                       CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Artificial Sequence
TELLEFAX: ("-
                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1124 ALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAG-----PGSPAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1064 CGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPEGACRQPG 1123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1004 DGPGPAGMAATCMKCYVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLGAPC 1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   924 P----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                     FILING DATE
                                                                                                                                                                                                                                                                                                                                                             STREET: 4 Embarcade
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     784 RDPGPPGAPGPAGPPGSRDPGP-PGAPGPAGPPGSRDP--GPPGAPGPAGPPGSRDPGPP 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     948 RDTGSKGVADDVVPPG---PGPAPEAPAQEG-PGSGSPRGKAPAAVAEKSPVRVRPPRVL 1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           736 GPKGAPGPAGPPGSRDPGPPGAPGPAGPPGSR-----DPGPPGAPGPAGPP----GS 783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             897 GPK-----PGSLDSHAAGRP-PARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGT 947
                                       TELEPHONE:
                                                                                              REGISTRATION NUMBER:
                                                                                                                                                                                      APPLICATION NUMBER:
                                                                                                                                                                                                                        SOFTWARE:
                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                   COUNTRY: USA
ZIP: 94111-4187
                                                                                                                   NAME:
                                                                                                                                                                                                                                                                COMPUTER:
                                                                                                                                                                                                                                                                                                                                                       STATE:
                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---GPAGPPG-SRD-PGPPGA----PGPAG--PPGSRDPGPPGAP--GPAGPPGS-RDPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAPGPAG-----GAP-PGSRDPGPPGAPGPAGPPGSRDPGPP-----GAP-877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90;
                                                                                                            ROWLAND, Bertram
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3.0%;
Similarity 30.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PatentIn Ver.
                                                                                                                                                                                                                                                                                                                                                       California
                                                                                                                                                                                                                                                                                                                                                                                  E: FLEHR, HOHBACH, TEST, ALBRITTON & HERBERT 4 Embarcadero Center, Suite 3400
       (415) 494-8771
10 277299 FHT (
                                                                                                                                                                                                                      PatentIn Release #1.0, Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                         (415) 494-8700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2728-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Description of Artificial Sequence: Illustrative
                                                                                                                                                                                      US/08/642, 255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2.1
       UR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 189; DB 4; Leny...
Pred. No. 7.3e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----PGAPGPAGPPGSRDPGPPGA 944
                                                                                                                                                                                                                        #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-642-255-62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 10
US-08-931-820-1
                                     US-08-931-820-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1, Application US/08931820 Patent No. 6010863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO:
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                            FILING DATE:
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 1064 amino aci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1013 PPGSRGDPGPPGA 1025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1168 P----GSPAAASA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1108 PERSPRWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAG 1167
                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: Patentin Release #1.0, Version #1.25 (EPO) CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1050 QQPRARAD--SLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGI 1107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: Assay for collagen degradation NUMBER OF SEQUENCES: 4
                                                                                       ANTI-SENSE: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 923 -PPGSRGDPGPPGAP----GPAGPPG-SRGDPGPPGA--PGPAGPPGSRGDPGPPGAPG- 973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             887 -----PPGSRGDPGPPGAPGP-----AGPPGSRGDPGPPGAPGPAG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    828 PGPAGPPGSRGDPGPPGAPGPAGPPGSRGDPGPPGAPGPPGSRGDPGPPGAPGPAG- 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      947 TRDTGSKGVADDVVPPG-PGPA-----PEAPAQEG-PGS----GSPRGKAPAAV 989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              778 GPKGAHGPAGPKGAHGPAGPKGAHGPAGPK-----GAPGPAGPPGSKGDPGPPGA 827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 897 GPK-----PGSLDSHAAGRP-----PARPSVSQRILRRTASAPTKSQKPGRRGFPELVLG 946
                                                                                                                         HYPOTHETICAL:
                                                                                                                                              MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 990 AEKSPVRVRPPRVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIR 1049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                   ORGANISM: Homo sapiens
TISSUE TYPE: Collagen type I
                                                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
                                                                                                                                                                                                                        LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----PAGPPGSRGDPGPPGAPGPA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          amino acid
                                                                                                                                                                                                      amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1064 amino acids
                                                                                                                                                                                                                          1057 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                    linear
                                                                                                                         . protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        single
                                                                                                                                                                                    single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2.8%;
2.8%; Score 180;
                                                                                                                                                                                                                                                                                                     EP 96202596.1
                                                                                                                                                                                                                                                                                                                                                                               US/08/931,820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 181; DB 1; Length 1064; Pred. No. 3.5e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---GPPGSRGDP-----GPPGAPGPAG 1012
   DB
Length 1057;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18;
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-906-865-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 27.2%; Matches 88; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sequence 4, Application US/08906865 Patent No. 6040168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                              TELEFAX: 201-343-1684
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1152 PLLPCVVLPHAPGMAGPGSPAAA 1174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1040 GPASROAAIRQQPRARADSLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDS 1099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1100 SSPDSPGIPERSPRWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGK------ 1151
                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Rel-
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: DNA ENCODING THE HUMAN SYNAPSIN III GENE TITLE OF INVENTION: AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    942 ELVLGTRDTGSKGVADDVVPPGPG-----PAPEAPAQEGPGSGSPRGKA------ 985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             663 GAKG-----EPGDAGAKGDAGPPGPAGPAGPPGPIGNVGAPGAKGARGSAGPPGATGFP 716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      889 GLKGLFLRGPKPGSLDSHA-AGRP-PARPSYSQRILRRTASAPTKSQK-----PGRRGFP 941
                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION: TELEPHONE: 201-487-5800
                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Jackson Esq., Davi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             816 GPSGEPG--KQGPSGASGERGPP----GPMGPPGLA--GPPGESGREGAPGAEGSPGRDG 867
ORIGINAL SOURCE:
                                  MOLECULE TYPE:
DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  868 SPGAKGDRGETGPAGPPGAPGAPGA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                764 PGPPGPAGEKGSPGADGPAGAPGTPGPQGIA------GQRGVVGLPGQRGERGFPGLP 815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      986 ---PAAVAEK-SPVRVRPPRVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRER--PPSP 1039
                 HYPOTHETICAL:
                                                                                                                                                           SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                910 P-----AGPAGPVGPAGA 922
                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 411 Hackensack Ave, Continental Plaza, 4th STREET: Floor
                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                NAME: Jackson Esq., David A. REGISTRATION NUMBER: 26,742
                                                                                                                                                                                                                                                                                                                                              FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: Hackensack
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER:
                                                                                              STRANDEDNESS:
                                                                                                                                        LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07601
                                                                                                                    amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New Jersey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                        696 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Porton, Barbara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Greengard, Paul
                                                                                                                                                                                                                                                                                                                                                                                                                              PatentIn Release #1.0, Version #1.30
                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          David A. Jackson,
                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -GAAGRVGPPGPSGNAGPPGPPGPAGKEGGKG-PRGETGPAGRPGEVGP 763
                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hung-Teh
                                      /desc
                                                                                              single
                                                                                                                                                                                                                                                                                                                                                                                         us/08/906,865
                                      "Synapsin Ia"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15; Mismatches 120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. 4.2e-05;
                                                                                                                                                                                                                                                                   600-1-202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Esq.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --PGPVGPAGKSGDRGETG 909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels 100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
```

```
RESULT 12
US-09-129-668-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ω<sub>γ</sub>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                           GENERAL INFORMATION:
APPLICANT: Greengard, Paul
APPLICANT: PORTOD, Barbara
APPLICANT: NOTOD, Barbara
APPLICANT: Kao, Hung-Teh
TITLE OF INVENTION: DNA ENCODING THE HUMAN SYNAPSIN III GENE AND USES
TITLE OF INVENTION: THEREOF
FILE REFERENCE: 600-1-202 CIP
CURRENT FILING DATE: 1998-08-05
CURRENT FILING DATE: 1998-08-05
EARLIER APPLICATION NUMBER: 08/906,865
EARLIER FILING DATE: 1997-08-06
NUMBER: 08 FOR THE FILING DATE: 1997-08-06
NUMBER: 1997-08-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM:
US-08-906-865-4
                                                                                                                                                                                                                                                                                                                      Sequence 4, Application US/09129668B
Patent No. 6429010
NUMBER OF SEQ ID NOS: 8 SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 2.8%; Score 179; DB 3; Length 696; Best Local Similarity 21.7%; Pred. No. 2.7e-05; Matches 152; Conservative 74; Mismatches 266; Indels 210; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1108 PERSPRWPEGACROPGALOGEMSALFAOKLEEIRSKSPMFSA 1149
                                                                                                                                                                                                                                                                                                                                                                                                                                                             664 PEPAP-----PRPSLSQDEV-----KAETIRSLRKSFAS 692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            618 TOOPRPSGPGPAGAP----KPQLAQKPSQDVPPPATAAAGGP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     049 RQQPRARADS-LGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGI 1107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1012 A----ATCMKCVVG----SCAGVNTGGLQRERPPS--PGPA--SRQAA------I 1048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     501 GSPLPQRLPSPTSAPQQPASQAAPPTQGQGRQSRPVAGGPGAPPAARPPA---SPSPQRQ 557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 441 ALPLGRQTSQQPAGPPAQQEPPPQGGPPQPGPGPQRQGPPLQQRPPPQGQQHLSGLGPPA 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               914 RPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGS-------KGV---A 956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                394 -----LIGDHQDEDKQLIVELVVN-----KMAQALPRQRQRDASPGR-GSHGQTPSPG 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              857 GYRHVYLEG---MEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPA 913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              337 TNTGSAMLEQIAMSDRYKLWVDTCSEIFGGLDICAVEALHGKDGRDHIIE---VVGSSMP 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             714 QLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSM 773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      673 QLSRIYPSSYR------VDS--SNYN----PQPFWNAGCOMVALNYQSEGRML 713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     135 IHGEIDIKVEQA-----EFSDLNLVAHANGGFSVDMEVLRNGVKVVRSLKPDFVLIROH 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   634 TH---DIEMEAASSWQVSSFSETK--AH------QILQQKPAQYLRENQQ 672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 574 GSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA 633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           285 QHDFQDIASVVALTKTYATAEPFIDAKYDVRVQKIG------QNYKAYMRTSVSGNW-K 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         774 LGDRGEI-----IDPFVE-----VEIIGLPVDCSREQTRVVDDNGFNPTWEE 815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            238 KLGTEEFP------LIDQTFYPNHKEMLSSTTYPVVVKMGHAHSGMGKVKVDN 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        189 AFSMARNGDYRSLVIGLQYAGIPSVNSLHSVYNFCDKPWVF----AQMVRLH------K 237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   75 GFFSSLSNAVKQTTAAAAATFSEQVGGGSGGAGRGGAASRVLLVIDEPHTDWAKYFKGKK 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGPPQATRQTSVSGPAPPKASGAPPGGQQRQGPPQKPPGPAGPTRQASQAGPVPRTGPPT 617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DDVVP---PGPGPAPEAPAQEG--PGSGSPRGKAPAAVAEKSPVRVRPPRVLDGPGPAGM 1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     36;
```

US RE	dg Qy	d dy	Dt.	Q L	; <u>0</u>	P 9) <u>D</u>	S.	E 6	ᄓ	, Q	ט ע	ם כ	ø	ם	io.	U 0		<u></u>
WESULT 13 US-08-642-255-61 Sequence 61, Application US/08642255 Patent No. 5773249 Patent No. 5773249 PATENT PROPARATION: APPLICANT: CAPPELLO, Joseph APPLICANT: CAPPELLO, Joseph TITLE OF INVENTION: High Molecular Weight Collagen-Like TITLE OF INVENTION: Protein Polymers NUMBER OF SEQUENCES: 135 CORRESPONDENCE ADDRESS: ADDRESSEE: FLEHR, HOHBACH, TEST, ALBRITTON & HERBERT STREET: 4 Embarcadero Center, Suite 3400 CITY: San Francisco	OY 1108 PERSPRWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSA 1149 Db 664 PEPAPPRPSLSQDEVKAETIRSLRKSFAS 692	1049 R 618 T	558 AGPPQATRQTS	ıõ	957 DDVVPPG	Qy 914 RPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVA 956	394LIGDHQDEDKQLIVELVVNKMAQALPRQRQRDASPGR-GSHGQTPSPG	ISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPA 91	QY 816 TLVFMVHMPEIALV-RFLVWD	285 QHDFQDIASVVALTKTYATAEPFIDAKYDVRVQKIGQNYKAYMRTSVSGNW-K 33		Db 238 KLGTEEFPLIDQTFYPNHKEMLSSTTYPVVKMGHAHSGMGKVKVDDN 284	189	QY 673 QLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRML 713	::: :: :: VAHANGGFSVDMEVLRNGVKVVRSLKPDFVLIRQH 1	ני פ	Qy 574 GSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA 633	Query Match 2.8%; Score 179; DB 4; Length 696; Best Local Similarity 21.7%; Pred. No. 2.7e-05; Matches 152; Conservative 74; Mismatches 266; Indels 210; Gaps 36	; SEO ID NO 4 ; LENGTH: 696 ; TYPE: PRT ; ORGANISM: Homo sapiens US-09-129-668-4
																		••	

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-642-255-61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ₽
                                                                                                                                                                                                                                                                                                                                                            RESULT 14
US-08-931-820-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                Sequence 4, Application US/08931820 Patent No. 6010863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: (415) 494-8700
TELEFAX: (415) 494-8771
TELEX: 910 277299 FHT UR
INFORMATION FOR SEQ ID NO: 61:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 20,015
REFERENCE/DOCKET NUMBER: A55556-3/BIR
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: ROWLAND, Bertram I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: peptide
                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTTWARE: Patentin Release #1.0, Version #1.25 (EPO)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1124 ALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGP----GSPAAASA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1064 CGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPEGACRQPG 1123
                                                                                                                                                                                                          TITLE OF INVENTION: Assay for collagen degradation NUMBER OF SEQUENCES: 4
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1006 PGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARAD--SLGAPC 1063
                 CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               897 GPK--PGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKG 954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             955 VADDVVPPG----PGPAPEAPAQEG-PGS----GSPRGKAPAAVAEKSPVRVRPPRVLDG 1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/642,255 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          56 APGPAGPPGSRGDPGP-PGAPGPAGPPGSRGDPGPPGAPGPAG------PPGSRGD 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16 GPKGAPG-----PAGPPGSRGDPG-----PPGAPGPPGSRG-----DPGPPG 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH:
                                                                FILING DATE:
                                                                                                                                                                                        MEDIUM TYPE:
APPLICATION NUMBER:
                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 PPGAPGPA------GPPGSRGDP-----GPPGAPGPAGPPGSRGDPGPPGA 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---GPAGPPG-SRGDPGPPGA--PGPAGPPGSRGDPGPPGAPG----PAGPPGSRGDPG 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PGPPGAPGP-----AGPPGSRGDPGPPGAPGPAG-----PPGSRGDPGPPGAP- 147
                                                                                                                                                                                                                                                                                              INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  94111-4187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       252 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                        Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2.8%;
                                                                                    US/08/931,820
  EP 96202596.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 177.5; DB 1;
Pred. No. 7.4e-06;
6; Mismatches 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-931-820-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-247-806-2
                                               ; ORGANISM: Nephila clavipes US-09-247-806-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2, Application US/09247806 Patent No. 6280747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                          SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 2
LENGTH: 529
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                            APPLICANT: PHILLIPPE, Michel
APPLICANT: GARSON, Jean-Claude
APPLICANT: ARRAUDEAU, Jean-Pierre
APPLICANT: ARRAUDEAU, Jean-Pierre
TITLE OF INVENTION: COSMETIC OR DERMATOLOGICAL COMPOSITION CONTACTING &
TITLE OF INVENTION: LEAST ONE NATURAL OR RECOMBINANT SPIDER SILK OR AN
TITLE OF INVENTION: ANALOG
FILE REFERENCE: 6388-0355-0
CURRENT APPLICATION NUMBER: US/09/247,806
CURRENT FILING DATE: 1999-02-11
                                                                                                                                                                                                              EARLIER APPLICATION NUMBER: FR 98/01614 EARLIER FILING DATE: 1998-02-11
                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HYPOTHETICAL: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 1057 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1126 -- QGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGP------GSPAAA 1174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1044 RQAAIRQQPRARADSLGAPCCGLDPHAIPGRSREAPK-----GPGA----WRQG-PGGSG 1093
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1094 SMSSDSSSPDSPGIP------ 1125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         887 ALGLKGLFLRGPKPGSLDSHAAGRP----PARPSVSQRIL--RRTASAPTKSQKPGRRGF 940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           941 PELVLGTRDTGSKGVADDVVPPG------PGPAPEAPAQEGPGSGSPRGKAPAAVA 990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              681 APGEKG---EGGPPG-----VAGPPGGSGPAGPPGPQGVKGERGSPGGPGAAGFPGARGL 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      944 GDKGETGERGAAGIKGHRG----FPGN------PGAPGSPGPAGQQGAIGSPGPA 988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      885 D-RGENGSPGAPGAPGHPGPPGPVGPAGKSGDRGESGPAGPAGAPGPAGSRGAPGPQGPR 943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 784 KGSPGAQGPP---GAPGPLGI------AGI-TGARGLAGPPGMPGPRGSPGP-- 825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              991 EKSPVRVRPPRVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPP-----SPGPAS 1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION: /label= modified OTHER INFORMATION: /note= "Ala may be Pro"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE TYPE: Collagen type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -QGVKGESGKPGANGLSGERGPPGPQGLPGLAGTAGEPGRDGNPGSDGLPGRDGSPGGKG 884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P-----GPPGSNGNPGPPGPSGSPGKDGPPGPAGNTGAPGSPGVSGPKGDAGQPGE 783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2.8%; Score 176; DB 3; 26.5%; Pred. No. 8.5e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22; Mismatches 121; Indels 120;
     Score 175.5;
     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 1057;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
```

```
OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                       Minimum DB seq length: 0 Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Perfect score:
                                                                                                                                                                                                                                                                                       Database :
 SPTREMBL_21:*
1: sp_archea:*
2: sp_bacteria:
3: sp_fungi:*
4: sp_human:*
5: sp_human:*
5: sp_mammal:*
7: sp_mhc:*
8: sp_organel:
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:
11: sp_rodent:
12: sp_virus:*
13: sp_vertebr:
14: sp_unclass
15: sp_bacteri:
16: sp_bacteri:
17: sp_archeap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     March 28, 2003, 13:45:25; Search time 113 Seconds (without alignments) 2200.875 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-927-112-2
6379
1 MAPPTAGPLPGPALPPEDPG.....ALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          671580 seqs, 206047115 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 5.1.4_p5_4578 copyright (c) 1993 - 2003 compugen Ltd.
sp_vertebrate:*
sp_unclassified:*
sp_rvirus:*
sp_bacteriap:*
sp_archeap:*
                                                                                                                                 sp_organelle:*
sp_phage:*
                                                                                                                                                                                                                                                     sp_archea:*
sp_bacteria:*
                                                                                                                                                                                       sp_invertebrate:*
sp_mammal:*
                                                                                                   sp_rodent:*
                                                                                   sp_virus:*
                                                                                                                   sp_plant:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                 671580
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match Length	Length	DB	ID	Description
1	3450	54.1	656	4	Q8TEH5	homo
2	2343	36.7	787	4	Q9UPT3	Q9upt3 homo sapien
اسا	1587.5	24.9	1128	11	Q9QYG1	Q9qyg1 mus muscuiu
4	1583.5	24.8	716	4	Q8WUS6	homo
u,	1578	24.7	1154	4	Q9UPR0	
o.	1524.5	23.9	997	4	Q15111	Q15111 homo sapien
7	1517	23.8	1096	11	Q62688	QbZ688 rattus norv
8	1463	22.9	772	σ	Q8SPR7	Ospr/ sus scroia
9	1441	22.6	762	4	Q9BRC7	Q9brc/ nomo sapien
10	1315.5	20.6	772	11	Q62711	Q62/II rattus norv
11	1297	20.3	895	ഗ	017232	01/232 caenornapul
12	1294	20.3	771	11	Q63693	Q63693 rattus norv
13	1289	20.2	789	4.	Q8TEC1	Q8tect nomo sapten
14	1287	20.2	745	11	060450	Q60450 criceculus
15	1281	20.1	757	4	Q8TF37	Q8ti3/ nomo sapien
16	1271	19.9	745	6	Q29517	Q2951/ oryctolagus

											``.	•	\ -		-													٠
45	44	43	42	41	40	39	38	37	36	<u>ა</u>	34	ω ω	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
880	881.5	886	915.5	920	925	925	928.5	935	939	940	942	942	947	956.5	965	986	990	992.5	1000.5	1075.5	1091.5	1096	1106	1107	1158.5	1256.5	1266	1268
13.8	13.8	13.9	14.4	14.4	14.5	14.5	14.6	14.7	14.7	14.7	14.8	14.8	14.8	15.0	15.1	15.5	15.5	15.6	15.7	16.9	17.1	17.2	17.3	17.4	18.2	19.7	19.8	19.9
1299	1211	1183	1210	1095	1431	1419	1418	1311	751	1012	1216	1173	537	1265	504	1230	1236	1283	1175	738	640	641	677	502	613	466	756	756
σ	13	11	13	ر.	ഗ	ъ	տ	ഗ	5	υ	1	11	H	4	4	G	σ	თ	11	ۍ.	6	σ	4	13	4	4	1	11
Q22070	Q91086	089040	Q92137	Q9U4G4	Q95x29	Q95X30	Q9U6B9	Q961D5	Q21754	097035	Q9Z1B3	Q920E5	Q9D9N4	Q969T5	Q96J70	Q24284	Q9 VXH3	097034	Q91UZ1	097037	Q95JS0	Q95JS1	Q3H8L0	Q91423	Q96FL6	Q9H9U2	Q8R3B1	Q9Z1B4
Q220/0 caenornabui	Q91086 meleagris g	089040 rattus norv	Q9213/ xenopus rae	Q9u4g4 drosopnila	Q95x29 caenorhabdi							mus	mus	homo	Q96J/U nomo sapien				\mathbf{L}	097037 hydra magni				u	homo sapie		l mus	mus

ALIGNMENTS

DЬ	Qy	뮹	Qy	Ъ	Qy	Ве Ма	0	SQ	Į R	RL	RT	R.T.	R ??	RP	RN	2	88	80	GN	7 t	ij	DŢ.	ă t	CHELLRÖ	RESULT
121 QQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLK 180	672 QQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLK 731	61 QKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQ 120	612 QKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRENQ 671	1 AEEEMESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATR 60	552 AEEDVESGEDAGASRRNGRLYVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATR 611	Similarity 99.5%; Pred. No. 9.5e-210; 3; Conservative 2; Mismatches 1;	Ouery Match 54.1%; Score 3450; DB 4; Length 656;	SEQUENCE 656 AA; 70138 MW; 1E65D386AB07F1DA CRC64;	EMBL; AKU/4149; BABB49/3.1; ". NON TER 1 1	Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases.	spleen.";	"The nucleotide sequence of a long cDNA clone isolated from human		SEQUENCE FROM N.A.	[1]	NCBI TaxID-9606;		Homo sapiens (Human).	FLJ00222.	otein (Fragment).	01-JUN-2002 (TrEMBLrel. 21, Last sequence upuate) 01-JUN-2002 (TrEMBLrel. 21, Last annotation update)	-2002 (TrEMBLrel. 21, Creat		DOTTELS DEFITMINARY: DRT: 656 AA.	JLT 1

```
RESULT 2
Q9UPT3
ID Q9UP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VQ
VQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
              PRINTS; PR00360; C2DOMAIN.
PRINTS; PR00390; PHPHLIPASEC.
ProDom; PD001202; PI_PLC_V; 1.
SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                    Kikuno R., Nagase T., Ishikawa K., Hirosawa M., Miyajima N., Tanaka A., Kotani H., Nomura N., Ohara O.; "Prediction of the coding sequences of unidentified human genthe complete sequences of 100 new cDNA clones from brain white for large proteins in vitro."; DNA Res. 6:197-205(1999).
EMBL: ABD28992; BAA83021.1; -.
                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                             InterPro; IPR000008; C2.
InterPro; IPR001192; PI_PLC.
InterPro; IPR000199; PI_PLC_Xdom.
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                          MEDLINE=99397452; PubMed=10470851;
                                                                                                                                                                                                             HSSP; P10688; 1DJH
                                                                                                                                                                                                                                                                                                                                                                                                                                                            KIAA1069 protein (Fragment).
PROSITE; PS50004; C2_DOMAIN_2; 1.
                                                                                                                                        ram;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9UPT3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9UPT3;
                                                                                                                                                                                                                                                                                                                                                           EQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                 (SSUE=BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PLLPCVVLPHAPGMAGPGSPAAASAWIVSPRVLVIVALYPWHCLRGTLLPWLACGP 1207
                                                                                                  PF00168; C2; 1.
PF00388; PI-PLC-X; 1.
PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PLLPCVVLPHAPGMAGPGSPAAASAWTVSPRVLVLVALYPWHCLRGTLLPWLACGP 656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SGSMSSDSSSPDSPGTPERSPRWPEGACROPGALOGEMSALFAQKLEETRSKSPMFSAGK 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QRERPPSPGPASRQAAIRQQPRARADSLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGG 1091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SGSMSSDSSSPDSPGIPERSPRWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGK 1151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QRERPPSPGPASRQAAIRQQPRARADSLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AQEGPGSGSPRGKAPAAVAEKSPVRVRPLRVLDGPGPAGMAATCMKCVVGSCAGVNTGGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AQEGPGSGSPRGKAPAAVAEKSPVRVRPPRVLDGPGPAGMAATCMKCVVGSCAGVNTGGL 1031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PARPSVSQRILRTTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVVPPGPGPAPEAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVVPPGPGPAPEAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPVDCSREQTRVVDDNGENPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEVEIIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₿
                                                                                                                                                                                                                                                                            genes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         791
```

```
RESULT 3
Q9QYG1
     AC DT DT DT DT DT OC
                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                          20
                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SO PR
                                             Q9QYG1 PRELIMINARY;
Q9QYG1;
01-MAY-2000 (TrEMBLrel. 13, C)
01-MAY-2000 (TrEMBLrel. 13, L)
01-UN-2002 (TrEMBLrel. 21, L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 458;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
             Mus musculus (Mouse)
                                            Phospholipase C-L2.
Eukaryota; Metazoa; Chordata; Craniata;
                             PLCL2 OR PLCE2 OR PLC-L2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE;
PROSITE;
NON_TER
                                                                                                                                                                                       713
                                                                                                                                                                                                                                                                                                  595
                                                                                                                                                                                                                                                                                                                                                       535
                                                                                                                                                                                                                                                                                                                                                                                  772
                                                                                                                                                                                                                                                                                                                                                                                                              475
                                                                                                                                                                                                                                                                                                                                                                                                                             712 MIQLNRAKFSANGGCGYYLKPGCMCQGYFNPNSEDPLPGQLKKQLYLRIISGQQLPKPRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181 CSIQQQRKIAQYLKGIFGDKLDLSSVDTGECKQLPSPQSLKGKILVKGKKLPYHLGDDAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           299 DGFTNYTRSPAGDIFNPEHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWV 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            239 DLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 DLYLLLLSYSDKKDHLTVEELAQFLKVEQKMNNVTTDYCLDIIKKFEVSEENKVKNVLGI 60
                                                                                                                                                                                                                                                                                                                   LVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISG------
                                                                                                                                                                                  GRKKSKMGFQEMV-EIKDSVSEATRD 737
                                                                                                                                                                                                           SQKPGRRGFPELVLGTRDTGSKGVAD 957
                                                                                                                                                                                                                                 SYTILHFLGATKNRQLQGLKGLFNKNPRHSSSENNS--HYVRKRSIGDRILRRTASAPAK
                                                                                                                                                                                                                                                     LVWDHDPIGRDFVGQRTVTFSSLVPGYRHVYLEGLTEASIFVHITINEIYGKWSPLILNP
                                                                                                                                                                                                                                                                                                                                             SMFGDRGEIIDPFVEVEIIGLPVDCCKDQTRVVDDNGFNPVWEETLTFTVHMPEIALVRF
                                                                                                                                                                                                                                                                                                                                                               SMLGDRGEIIDPFVEVEIIGLFVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEIALVRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EEDTQQSTGKEGGQLYRLGRRKTMKLCRELSDLVVYTNSVAAQDI-VDDGTTGNVLSFS
                                                                                                                                                                                                                                                                                                                                                                                                    MMQLNRAKFKANGNCGYVLKPQQMCKGTFNPFSGDPLPANPKKQLILKVISGQQLPKPPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RALLKATHEGLNAHLKOSPDVKESGK ----KSHGRSLMTNFGKHKKTTKSRSKSYSTDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                         GDEGODS---PGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STLSPSGKLGRKS--KAEEDV-ESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EGEVSDEDSADEIDDDCKL-LNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSV 537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LQEGCRCVEVDCWDGPDGEPVVHHGYTLTSKILFRDVVETINKHAFVKNEFPVILSIENH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EGEVSDEDSADEIEDECKFKLHYSNGTTEHQVESFIRKKLESLLKESQIRDKEDPDSFTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENH 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EGFTNFMRSPACDIFNPLHHEVYQDMDQPLCNYYIASSHNTYLTGDQLLSQSKVDMYARV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PS50007; PIPLC_X_DOMAIN; PS50008; PIPLC_Y_DOMAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         787 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      89169 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        36.7%; Score 2343; DB 4; 61.4%; Pred. No. 1.2e-139;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 107;
                                                      Last sequence up
                                                                     Last
                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. 1.20 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2EFC0355E4CDFC8D CRC64;
                                                                                                             1128 AA.
                                                                     update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 787;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                               594
                                                                                                                                                                                                                                                                                                                                                                                                                              771
                                                                                                                                                                                                                                                                                                                                                                                                                                                          474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
```

Vertebrata;

Euteleostomi;

```
ğ
                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                밁
                                                                                                                                                            ρ
                                                                                                                                                                                               밁
                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                밁
                                                                                             Š
                             õ
                                                                  믕
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Otsuki M., Fukami K., Kohno T., Yokota J., Takenawa T.; "Identification and characterization of a new phospholipase C-like protein, PLC-L2.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Interpro; IPR000008; C2.
Interpro; IPR001849; PH.
Interpro; IPR001192; PI_PLC.
Interpro; IPR0001909; PI_PLC_Xdom.
Interpro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=10090;
[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SMART; SM00239; C2; 1.
SMART; SM00233; PH; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSP; P10688; 1QAS.
MGD; MGI:1352756; Plc12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biochem. Biophys. Res. Commun. 266:97-103(1999).
EMBL; AB033615; BAA89457.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-20050058; PubMed-10581172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR00390; PHPHLIPASEC. ProDom; PD001202; PI_PLC_Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                  164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   148 SELKKVRSNSRIYHRYFLLDADMQSLRWEPSKKDSEKAKIDIKSIKEVRTGKNTDIFR--
                                 461
                                                                                                                                  446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 PTAGPLPGPALPP-----EDPGPDPESRWLFLSANILPVVER-----CMGAMQEG 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK-NEKAKISIDSIQEVSEGRQSEVFQRY 107
                                                                                                                                                                                                                                                                                                                                                               -RTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREA-DTDDHQGT
                                                                                                                                                                                                                                                                                                                                                                                                  SNGISEQISEDCAFSVIYGENYESLDLVANSADVANIWVTGLRYLISYGKHTLDMLESSQ
                                                                                                                                                                                                                                                                                              -LGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDI
                                                                                                                                                                                                                                                                                                                                 DNMRTSWISQMFSEIDVDGLGHITLCHAVQCIRNLNPGLKTSKIELKFKELHKSKDKAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                PDG---SFDPNCCFSIYHGSHRESLDLVSTSSEVARTWYTGLRYLMA-GISDEDSLARRQ 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PAAGPVPRDSKPGGLPRRSSIIKDGTKOKRERKKTVSFSSMPTEKKISSASDCIHSMVEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PF00388; PI-PLC-X; 1. PF00387; PI-PLC-Y; 1.
                                                                                              KYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG 460
                                                                                                                                  EITKEEFIEVFHELRTRPEIYFLLVQFSSNKEFLDTKDLMMFLEAEQGVAHINEEISLEI 385
 KILIKAKKLSSNCS--GVEGDVTDEDEGAEM-----SQRMGKENV-----
                               KILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSL 520
                                                                 KYAFFASEYPLILCLENHCSIKQQKVMYQHMKKILGDKLYTTSPNMEE-SYLPSPDVLKG
                                                                                                                                                                 LVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETIN 400
                                                                                                                                                                                                   IHKYEPSKEGQEKGWLSIDGFTNYLMSPDCYIFDPEHKKVCQDMKQPLSHYFINSSHNTY
                                                                                                                                                                                                                    IEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTY 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PF00168; C2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24.9%; Score 1587.5; DB 11; Length 1128; 36.5%; Pred. No. 1.1e-91;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      125763 MW; 8598CC59D89ADCE5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       168; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         280; Indels 165; Gaps
                                                                                                                                                                                                        445
                                                                                                                                                                                                                                                                                                       280
                                                                                                                                                                                                                                                                                                                                                                                                       265
                                                                        564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21;
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
 Ş
                                   밁
                                                                 Qy
                                                                                                    Matches
                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                 Strausberg R.; submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases EMBL; BC019679; AAH19679.1; ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical 75.7 kDa protein (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9SUW80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           521 IKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRK 580
                                                                                                                                                                                                               PRINTS; PR00360; C2DOMAIN.

Prodom; PD001202; PI PLC_Y; 1.

SMART; SM00239; C2; 1.

PROSITE; PS50004; C2_DOMAIN_2; 1.

PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                 Pfam; PF00168; C2; 1.
Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          699
                                                                                                                                                                                   Hypothetical protein NON_TER 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       757 VLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEET
                                                                                                                                                                   SEQUENCE 716 AA; 75724 MW; 148244B142852AB0 CRC64;
                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000008; C2.
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         931
                                                  697 AGCOMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQL 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4
757 VLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEET 816
                                 1 AGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQL 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HIKIISGQNFPKPKGS--GAKGDVVDPYVYVEIHGIPADCAADRTKTVNQNGDAPIFDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CQIVAMNFQTPGLMMDLNVGWFRQNGNCGYVLRPAIMREEVSFFSANTKDSVPGVSPQLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMVALNYQSEGRMLQLNRAKFSANGGCGYYLKPGCMCQGV--FNPNSEDPLPGQLKKQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FQVQKYWEVCSFNEVLASKYANENPGDFVNYNKRFLARVFPSPMRIDSSNMNPQDFWKCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG 698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHD--IE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEFQINLPELAMVRFVVLDDDYIGDEFIGQYTIPFECLQTGYRHVPLQSLTGEVLAHASL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LVFMVHMPEIALVRFLVWDHDFIGRDFIGQRTLAFSSMMPGYRHVYL-----EGMEEASI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FVHVALTNRRGGGKPHKRGLSVRKGKKSREYASLRTLWIK-----TVDEVFKNAQPPIRD 930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FVHVAVSDISG------KVKQALGLKGLFLRGPKPGSLDS-HAAGRPPARP 915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATDLR 935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SVSQR 920
                                                                                                     350;
                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----KRFQLCKELSELVSICKSVQFKEFQVS 637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                     24.8%; Score 1583.5; C
61.5%; Pred. No. 1e-91;
tive 19; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          716 AA
                                                                                                                                       DB 4; Length 716;
                                                                                                         101;
                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TI CITIC
                                                                                                         99; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  697
                                                                                                         14;
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                              KIKUNO R., Nagase T., Ishikawa K., Hirosawa M., Miyajima N., Tanaka A., Kotani H., Nomura N., Ohara O.; Prediction of the coding sequences of unidentified human genes. XIVThe complete sequences of 100 new CDNA clones from brain which code for large proteins in vitro.";
                                                                                                                                                                                                                                                              MEDLINE=99397452; PubMed=10470851;
                              PRINTS;
                                                                                        interPro; IPR001192; PI_PLC.
interPro; IPR000909; PI_PLC_xdom.
interPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                        DNA Res.
                                                                                                                                                                                                                                                   Kikuno R., Nagase
                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                                                                                                   interPro; IPR000008; C2.
InterPro; IPR001849; PH.
InterPro; IPR001192; PI_H
                                                                                                                                                               HSSP;
                                                                                                                                                                                                                                                                               TISSUE-BRAIN;
                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                         KIAA1092
                                                                                                                                                                                                                                                                                                                                                                                               01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
01-JUN-2002 (TrEMBLrel. 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                 KIAA1092 protein (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9UPRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1047 AIROOPRARADSLGAPCCG------LDPHAIPGRSR------EAPK 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                          29UPRO;
                                                        tam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ر
ت
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
            P10688;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RPPIPDELQPRSLAPRMAGLPFRPPWGCL 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----PAAASAWTVSPRVLVLVALYPWHCL 1195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LGLGRSRENLAGAHMGRLP------PRPHSASAARPDLPPVTKSKSNPNLRATGQ 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPEGACRQ--PGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHA-PGMAGPGS 1170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EPLGGWRPLAAPFPAPAVYSDATGSDPLWQRLEPCGHRDSVSSSSSMSSSDTVIDLSLPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GP-GAWR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SPLEDTEEPRDSRPRPCNGEGAGGAYERAPGSQTDGRSQPRTLGHLPVIRRVKSEGQVPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VRPP-----RVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSP-GPASRQA 1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PLPPLCSLETIAEEPAPGPGPPPPAA-------VPTSSSQ-GRPPYPTGPGANVA 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RRGFPELVLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGPGSGSPRDTRPL----STQR 295
                                                                                                                                                                        AB029015;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RRGFPELVLGTRDTGSKGVADDVVPPGFGPAPEAPAQEGPGSGSPRGKAPAAVAEKSPVR 996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VSDISGKVKQALGLKGLFLRGFKFGSLDSHAAGRFPARFSVSQRTLRRTASAFTKSQKFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PD001202; PI_PLC_Y; 1
                                                                                                                                                                      6:197-205(1999).
029015; BAA83044.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                            Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                          Created)
                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; Euteleostomi;
Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----QGPGGSGSMSSDSSSPDSPGIPERS-PR 1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
```

```
<u>`</u>`·
                                                                                                                                                                            . ...
Ы
                         Ş
                                                         В
                                                                                                                 В
                                                                                                                                               Q.
                                                                                                                                                                                                          Ϋ́
                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
              800 QTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYR
                                                       767
                                                                                                                 707
                                                                                                                                                                               647
                                                                                                                                                                                                           624
                                                                                                                                                                                                                                                                      564
                                                                                                                                                                                                                                                                                                   620
                                                                                                                                                                                                                                                                                                                     504 TNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAG 563
                                                                                                                                                                                                                                                                                                                                                    575 PNVEE-SYLPSPDVLKGKILIKAKKLSSNCS--GVEGDVTDEDEGAEM------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SMART; SM00239; C2; 1.
SMART; SM00233; PH; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                           384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               264 QVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           157 EKKISSASDCINSMYEGSELKKYRSNSRIYHRYFLLDADMQSLRWEPSKKDSEKAKIDIK 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         91 SIQEVSEGRQSEVFQRYPDGSFD---PNCCFSTYHGSHRESLDLVSTSSEVARTWYTGLR 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       38 VER-----CMGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK-NEKAKISID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97 ASPTRGPRGVALAPTPSAVVCTLPRESKPGGLPRRSSIIKDGTKQKRERKKTVSFSSMPT 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 APPTAGP-----LPGPA-----LPPED-PGPDP------ESRWLFLSANILPV 37
                                            FNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSRE
                                                                                                       \tt MRIDSSNMNPQDFWKCGCQIVAMNFQTPGLMMDLNIGWFRQNGNCGYVLRPAIMREEVSF
                                                                                                                                    YRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGV--
                                                                                                                                                                    ELVSICKSVQFKEFQVSFQVQKYWEVCSFNEVLASKYANENPGDFVNYNKRFLARVFPSP
                                                                                                                                                                                                DLVKYTKSVATHD--IEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSS
                                                                                                                                                                                                                                                           ASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALS
                                                                                                                                                                                                                                                                                                   SQRMGKEN----
                                                                                                                                                                                                                                                                                                                                                                                                                                         YTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MKQPLSHYFINSSHNTYLIEDQFRGPSDITGYIRALKMGCRSVELDVWDGPDNEPVIYTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VKQMFREA-DTDDHQGT-LGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YLISYGKHTLDMLESSQDNWRTSWVSQMFSEIDVDNLGHITLCNAVQCIRNLNPGLKTSK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YLMA-GISDEDSLARRQ-RTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQR 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EAEQGVAHINEEISLEIIHKYEPSKEGQEKGWLSIDGFTNYLMSPDCYIFDPEHKKVCQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IELKFKELHKSKDKAGTEVTKEEFIEVFHELCTRPEIYFLLVQFSSNKEFLDTKDLMMFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIKEVRTGKNTDIFR--SNGISDQISEDCAFSVIYGENYESLDLVANSADVANIWVTGLR 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        357;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PS50004; C2_DOMAIN_2; 1.
PS50003; PH_DOMAIN; 1.
PS50007; PIPLC_X_DOMAIN;
PS50008; PIPLC_Y_DOMAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1154 AA; 128371 MW; 84BB2744ADE5A334 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative 166; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24.7%; Score 1578; DB 4; 36.4%; Pred. No. 4.6e-91;
---MEQPNNVPV---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     279;
                                                                                                                                                                                                                                · · · · · · · · · · · · KRFQLCKELS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels 180;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                 859
                                                                                                                                                                                                                                                             623
                                                                                                                                                                                                                                646
                                                                                                                                                                                                                                                                                           636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24;
```

```
Š
                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                            δÃ
                                                                                                          밁
                                                                                                                               δ
  밁
                         Š
                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q15111;
Q15111;
Q1-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2q33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1996 (TrEMBLrel. 01, 01-NOV-1996 (TrEMBLrel. 01, 01-JUN-2002 (TrEMBLrel. 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  carcinoma.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kohno T., Otsuka T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. MEDLINE-95359973; PubMed-7633416;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PLC-L (PLC-EPSILON).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               825
                                                                                                                                                                                                                      PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_X_DOMAIN; 1.
SEQUENCE 997 AA; 112955 MW; 08D30
                                                                                                                                                                                                                                                                                        SMART; SM00239; C2; 1.
SMART; SM00233; PH; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR001849; PH.
InterPro; IPR001192; PI_PLC.
InterPro; IPR000909; PI_PLC_Xdom.
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Yokota J
                                                                                                                                                                                                                                                                                                                                                                                                                Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HSSP; P10688; 1QAS
                                                                                                                                                                                                                                                                                                                                                          PRINTS;
                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR00360; C2DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Identification of a novel phospholipase C family gene at chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6
                                                                                                                                     41 CMGAMQEGMOMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKN-EKAKISIDSIQEVSEGR 99
                                                        73
                                                                                                             13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HVYL-----EGMEEASIFVHVAVSDISG--------KVKQALGLKGLFLRGPK 899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            {\tt RTKTVHQNGDAPIFDESFEFQINLPELAMVRFVVLDDDYIGDEFIGQYTIPFECLQTGYR}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --TVDEVFKNAQPPIRDATDLR 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PGSLDS-HAAGRPPARPSVSQR 920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HVPLQSLTGEVLAHASLFVHVAITNRRGGGKPHKRGLSVRKGKKSREYASLRTLWIK---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 that is homozygously deleted in human
                                                                                                                                                                                                                                                                                                                                                                                     PF00388;
LDFMEGNONTPRFMWLKTVFEAADVDGNGIMLEDTSVELIKOLNPTLKEAKIRLKFKEIQ 190
                         -DSLARRORT-RDOWLKOTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRORVKOMFREAD
                                                                               QSEVFQRYPDGSFD---PNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDE 156
                                                                                                           CISEMQAGCELKKVRPNSRIYNRFFTLDTDLQALRWEPSKKDLEKAKLDISAIKEIRLGK 72
                                                        NTETFTN--NGLADQICEDCAFSILHGENYESLDLVANSADVANIWVSGLRYLVSRSKQP
                                                                                                                                                                                                                                                                                                                                                                                                               PF00168; C2; PF00169; PH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D42108;
                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                           PR00390; PHPHLIPASEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IPR000008; C2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genet. 4:667-674(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                  Conservative 158; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BAA07688.1;
                                                                                                                                                                                                                                                                                                                                                                                      PI-PLC-X; 1.
PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                              PI_PLC_Y; 1
                                                                                                                                                                                23.9%;
36.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Takano H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                Score 1524.5; D
Pred. No. 9e-88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Yamamoto T., Hamaguchi M., Terada
                                                                                                                                                                                                                        08D3CEC28AD652B7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    small cell lung
                                                                                                                                                                     279; Indels 177; Gaps
                                                                                                                                                                                             DB 4;
                                                                                                                                                                                             Length 997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                941
                                                                                                                                                                      20;
```

```
. -,--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                              RESULT 7
Q62688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
RR RR OCC OCC DIT DIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        215 TDDHQGT--LGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGV
                                                                              Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                              01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last seq
01-JUN-2002 (TrEMBLrel. 21, Last ann
130kba-Ins(1,4,5)P3 binding protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          371
              SEQUENCE FROM N.A.
STRAIN-WISTAR; TISSUE-BRAIN;
                                                                                                                                                                                                  Q62688;
                                                                                                                                                                                                                  Q62688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    498 QYRDFELSMKSQNYWEMCSFSETEASRIANEYPEDFVNYNKKFLSRIYPSAMRIDSSNLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         470
                                                             NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     573 VGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSV
                                                                                                                                                                                                                                                                                                    855 YL 856
                                                                                                                                                                                                                                                                                                                                  942 EL 943
                                                                                                                                                                                                                                                                                                                                                                  796 LREAIDMRENMQNAIVSIKELCGLPPI-ASLKQCLLTLSSRLITSDNTPSVSLVMKDSFP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KSKEKLTTRVTEEEFCEAFCELCTRPEVYFLLVQISKNKEYLDANDLMLFLEAEQGVTHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PSPEKLKRMIIVKGKKLPSD--PDVLEGEVTDED-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENT 512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTL 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILF 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TEDICLDIIRRYELSEEGRQKGFLAIDGFTQYLLSSECDIFDPEQKKVAQDMTQPLSHYY 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TLESCODIIEOFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYF 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   POPFWNAGCOMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGV--FNPNSEDPL 748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATHDIE--MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLV 572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RSVIEVINKFAFVASEYPLILCLGNHCSLPQQKVMAQQMKKVFGNKL-YTEAPLPSESYL 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INASHNTYLIEDQFRGPADINGYIRALKMGCRSVELDVSDGSDNEPILCNRNNMTTHVSF 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEG---
                                                                                                                                                                                                                                                                                                                                                                                                   KPGSLD------SHAAGRPPARPSVSQRILRRTASAPTKSQKPG-----RRGFP
                                                                                                                                                                                                                                                                                                                                                                                                                                   DIMEHVTLFVHIAITNRSGGGKAQKRSLSVRMGKKVREYTMLRNIGLKTIDDIFKIAVHP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PGVSPLALHIKIISGQNFPKPKGACA--KGDVIDPYVCIEIHGIPADCSEQRTKTVQQNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PQDFWNCGCQIVAMNFQTPGPMMDLHTGWFLQNGGCGYVLRPSIMRDEVSYFSANTKGIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----QKQIRLCRELSDLVSICKSV
                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                 Last sequence update)
Last annotation updat
                                                                                                                                                                                                                       1096 AA
                                                                                                                                                   update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -EEAQMSRR----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           808
                                                                                                                                                                                                                                                                                                                                                                                                                                          795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            865
```

MEDLINE=96132642;

PubMed=8546702;

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RARA RARA RARA RATIONA RATIONA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R PRINTS; PRO0390; PHPHLIPASEC.

R PCDOm; PD001202; PI_PLC_Y; 1.

R SMART; SM00239; C2; 1.

R SMART; SM00148; PLCXC; 1.

R SMART; SM00149; PLCYC; 1.

R SMART; SM00149; PLCYC; 1.

R PROSITE; PS50004; C2_DOMAIN_2; 1.

R PROSITE; PS50003; PH_DOMAIN; 1.

R PROSITE; PS50008; PIPLC_X_DOMAIN; 1.

R PROSITE; PS50008; PIPLC_X_DOMAIN; 1.

SEQUENCE 1096 AA; 122772 MW; 06F13B580660A01F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
632 VATHDIE--MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNY 689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00168; C2; 1.
Pfam; PF00169; PH; 1.
Pfam; PF00388; PI-PLC-X; 1.
Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                               572 VVGSFSRRKKKGSKLKKAASVEEGDEGODSPGGQSRGATRQKKTMKLSRALSDLVKYTKS
                                                                                                                                                                                                                                                                                                                              512
                                                                                                                                                                                                                                                        561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100 QSEVFQRYPDGSFD----PNCCFSIYHGSHRESLDLVSTSSEVARTWYTGLRYLMAGISDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              112 CISFMQAGCELKKVRPNSRIYNRFFTLDTDLQALRWEPSKKDLEKAKLDISAIKEIRLGK 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        157 -DSLARRORT-RDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  172 NTETFRN--NGLADQICEDCAFSILHGENYESLDLVANSADVANIWVSGLRYLVSRSKQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR001192; PI_PLC_xdom.
InterPro; IPR000909; PI_PLC_xdom.
InterPro; IPR001711; PI_PLC_x.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; D45920; BAA08351.1; -. HSSP; P10688; 1QAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "A new inositol 1,4,5-trisphosphate binding protein similar to phospholipase c-deltal.";
Biochem. J. 313:319-325(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kanematsu T., Misumi Y., Watanabe Y., Ozaki S., Koga T., Iwanaga
Ikehara Y., Hirata M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                41 CMGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKN-EKAKISIDSIQEVSEGR 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        interPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                   TAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VSGDYN-----
                                                                                                                                                                                                                                                                                                                                                                                        LPSPEKLKHMIIVKGKKLPS--ESDLLEGEVTDED------
                                                                                                                                                                                                                                                                                                                                                                                                                                              LPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVEN 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RSVLEVINKPAFVASEYPLILCLGNHCSLPQQRVMVQQMKKVFGNKLYTEAPLSSE--SY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INASHNTYLIEDQFRGPADINGYYRALKMGCRSIELDVSDGPDNEPILCNRNNMAMLLSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILF 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TEDMCLDIIRRYELSEDGRQKGFLAIDGFTQYLLSPECDIFDPEQKKVAQDMTQPLSHYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TLESCODIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYF 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KSKEKLTTRYTEEEFCEAFCELCTRPEVYFLLVQISKNKEYLDANDLMLFLEVEQGVTHV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TDDHQGT--LGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LDFMEGNQNTPRFMWLKTVFEAADVDGNGIMLEDTSVELIKQLNPTLKESKIRLKFKEIQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     349;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23.8%; Score 1517; DB 11; Length 1096; Similarity 36.1%; Pred. No. 3.1e-87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IPR001849; PH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IPR000008; C2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative 161; Mismatches 278;
                                                                             ----EEAEMSRR----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels 180;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                            560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22;
```

Š

Ş В Ş 밁 δÃ 밁 Ş 밁 δÃ В Qy 밁 δÃ Б δÃ 뫄 Qy 밁 Ş

```
RESULT
OBSERT
ID 98
AC Q8
DT 00:
DT 00:
DT 00:
DT 00:
CS S S
OCC F P
O
                                        Ş
                                                                                                         밁
                                                                                                                                                                   Ş
                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                    ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Smith T.P.L.;
Submitted (ABR-2002) to the EMBL/GenBank/DDBJ databases
EMBL; AF498759; AAM18122.1; -
SEQUENCE 772 AA; 88075 MW; 86E5706A74247548 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eute
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Phospholipase C delta 4.
                 333 ITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILF
                                                                                                                                                                                                                                        189
                                                                                                                          273 TLESCODIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYF 332
                                                                                                                                                                                                                                                         213 ADTDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGV 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q8SPR7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q8SPR7
                                                                                                                                                                                                                                                                                                                                              133 VTNMD----QQERLDQWLSDWFQRGDKNQDGRMSFGEVQRLLHLMNVEMDQEHAFQLFQT 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                            153 ISDEDSLARRORTROOWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRORVKOMFRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            74 ETVRGGHESELLRNLAE-EFPLEQGFTIVFHGRRSNLDLVANSVEEAQVWMQGLQLLVDF 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       941 PEL-VLGT 947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16 LPINQDLL-LMQKGMLMRKVRSKSWKKLRYYRLQDDGMTV-WHARQAGGRAKPSFSISDV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            35 LPVVERCMGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKNEKAK--ISIDSI 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   774 SDNPIFDETFEFQVNLPELTMYRFVILDDDYIGDEFIGQYTIPFECLQPGYRHVPLRSFV 833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 808 GFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              716 VPGVSPLLLHIKIISGQNFPKFKGACA--KGDVIDPYVCVEIHGIPADCSEQRTKTVQQN 773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            748 LPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             656 NPQDFWNCGCQIVAMNFQTPGPMMDLHTGWFLQNGGCGYVLRPSIMRDEVSYFSANTKGI 715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  690 NPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYYLKPGCMCQGV--FNPNSEDP 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           596 VQYRDFELSMKTQNYWEICSFSETLASRIANEYPEDFVNYNKKFLSRVYPSAMRIDSSNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                 ASDLALELIDRHEPSDSGKLRHVLSLDGFLSYLCSKDGDIFNPTCLPIYQDMTQPLNHYF
                                                                                                                                                                                                                ADT-SQSGTLEGEEFVEFYKSLTKRAEVQELFENFSSDGQKLTLLEFVDFLQEEQKEGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAG
   PLREAIDMRENMQNAIVSVKELCGLPPI-ASLKQCLLTLSSRLITSDSTPSVSLVMKDCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PYLEPLGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PKPGSLD-----SHAAGRPPARPSVSQRILRRTASAPTKSQKPG-----RRGF 940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GDIMEHVTLFVHIAITNRSGGGKAQKRSLSVRMGKKVREYTMLRNIGLKTIDDIFKIAVH 893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          140;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 1463; DB 6; Length 772; Pred. No. 4.8e-84;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
<del>..</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             264; Indels 128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21;
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9BRC7
                                                                                                                                                                                                                                                                                                                                01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical 87.6 kDa protein.
Homo sapiens (Human).
Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                  EMBL;
                                                                                                                                                                                                                                Strausberg R.;
Submitted (APR-2001) to the EM
EMBL; BC006355; AAH06355.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                     Q9BRC7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  308
                                                        Pfam; PF00168; C2; 1.
Pfam; PF00036; efhand; 2.
Pfam; PF00169; PH; 1.
Pfam; PF00388; PI-PLC-X; 1.
Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           573 VGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSV 632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     513
PRINTS; PR00390; PHPHLIPASEC.
PTCDCom; PD001202; PL_PLC_Y; 1.
SMART; SM000239; C2; 1.
SMART; SM00054; EFh; 3.
                                                                                                                          InterPro; IPR000909; PI_PLC_Xdom InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            691
                                                                                                                                                                                                                                                                            TISSUE-BRAIN;
                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            749
                                                                                                                                                           InterPro;
                                                                                                                                                                          InterPro;
                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KDVVAAIAQYAFQTSDYPVILSLENHCSWEQQEMIAHHLTEILGEQLLSTTLDGQLPTQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTL 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATHDI--EMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYN 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PSPEELRRKILVKGKKL-RTLEEDLEEEEEEPEESE-----LEG-----EQE 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENT 512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INSSHNTYLVGDQLCGQSSVEGYIRALKRGCRCVEVDIWDGPNGEPVVYHGHTLTSRIPF 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SFYSPAHSREHYRFYEISSFSEAKAKSLIKESGNEFVQHNTWQLSRVYPGGLRTDSSNYN 573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLV 572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G--MEEASIFVHVAVSDISGKVKQALGLKGL 893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AELELEAQFE-----SEPQE-----LSPRSK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GISLHPASIFVHICIRE-----GIEGV 770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SPSKAQTLLIQVISGQQLPKVDDS---KEGSIVDPLVRVEIFGVRPDTARQETSYVENNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PQEFWNAGCQMVAMNMQTAGLEMDLCDGLFRQNAGCGYVLKPDFLRDAQSSFHP--ERPI
                                                                                                                                                                                                                     P10688;
                                                                                                                                                                                        IPR002048;
                                                                                                                                                           IPR001192;
                                                                                                                                                                            IPR001849;
                                                                                                                                                                                                    IPR000008; C2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                     10AS
                                                                                                                                                                                                                                              to the EMBL/GenBank/DDBJ databases
                                                                                                                                                           PI_PLC.
                                                                                                                                                                                          EF-hand
                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       762 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                389
```

```
DR SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                      QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                    Q
                                                                                                                                                                                           밁
                                                                                                                                                                                                                         QY
                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                      Ъ
             Š
                                                                                δÃ
                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50018; EF HAND; UNKNOWN_2.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hypothetical
SEQUENCE 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SMART; SM00233; PH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          103 VFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 191
                                                                                                                                                                                                                                                                                                 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             463 LYKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIK 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 371 AFQTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPEELRRKI 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   403 AFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKI 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     311 GDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           343 GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            251 RYEPSDSGKLRHVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 223 GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          / MATCH 22.6%; Score 1441; DB 4; Local Similarity 38.3%; Pred. No. 1.2e-82; les 330; Conservative 145; Mismatches 253:
                                                                                                                                                                                                                                                                                                                                    485
                                                                                                                                                                                                                                                                                                                                                                                                          462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18 MQECMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              45 MQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSE 102
                                                                                                                                                                                                                                                               512 KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRYYPSGLRTDSSNYNPQELWNAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77 LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMD----H 131
                                                                                                                                                                                           572
               871 IFVHVAVSDISGKVKQALGLKG 892
                                                                                                                                                        757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID 250
                                                                                                                                                                                                                                                                                  WEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LVKGKKL--TLEEDL---EYEEEEAEPELEE------SELAL 461
                                                                                                                                                                                                                                                                                                                                    SKPI------CPALSSLVIYLKSVSFRSFTH--S
                                                                                                                                                                                                                                                                                                                                                                      GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE 638
                                                                                                                                                                                                                                                                                                                                                                                                          ESOFETEPEPO---
                                                                                                                                                                                                                                                                                                                                                                                                                                        ESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKK 582
                                                                                                                                                                                                                             COMVALNYOSEGRMLOLNRAKFSANGGCGYYLKPGCM--COGYFNPNSEDPLPGQLKKQL
                                                                                                                                         VLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEET
                                                                                                                                                                                         LCFRVLVPELAMLREVVMDYDWKSRNDFIGQYTLPWTCMQQGYRHIHLLSKDGISLRPAS
                                                                                                                    LIQVISGQQLPKVDKT---KEGSIVDPLVKVQIFGVRLDTARQETNYVENNGFNPYWGQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SM00148; PLCXc; 1.
SM00149; PLCYc; 1.
                                                                                  LVFMVHMPETALVRFLVMDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---EG--MEEAS
= ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         al protein.
762 AA; 87585 MW; 5444BE5CE2AEA3EF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                          -----EQNLQNKD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       145; Mismatches 253; Indels 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 762
                                                                                                                                                                                                                                                                                                                                                                                                            ----KKKK 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     310
                                                                                                                                                                                                                                                                                                                                          511
                                                                                          870
                                                                                                                             686
                                                                                                                                                               816
                                                                                                                                                                                                                                                                      571
                                                                                                                                                                                                                                                                                                        698
                                                                                                                                                                                                   629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
```

밁

747

IFWYICIQE---

759

```
Best
                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 312;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS; PRO0366; C2DDMAIN.

PRINTS; PRO0390; PRPHLIPASEC.
ProDom; PD001202; PI_PLC_Y; 1.

SMART; SM00239; C2; 1.

SMART; SM00239; C2; 1.

SMART; SM00239; C2; 1.

SMART; SM00239; PI_ 1.

SMART; SM00148; PLCXc; 1.

SMART; SM00148; PLCYc; 1.

SMART; SM00149; PLCYc; 1.

SMART; SM00149; PLCYc; 1.

SMART; SM00149; PLCYc; 1.

PROSITE; PS00014; C2_DOMAIN_2; 1.

PROSITE; PS00018; EF_HAND; UNKNOWN_1.

PROSITE; PS500007; PIPLC_X_DOMAIN; 1.

PROSITE; PS50008; PIPLC_X_DOMAIN; 1.

SEQUENCE 772 AA; 88966 MW; 5DD56D1D4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro;
Pfam; PFOO
Pfam; PFOO
Pfam; PFOO
Pfam; PFOO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF00036; efhand; 2.
Pfam; PF00169; PH; 1.
Pfam; PF00388; PI-PLC-X; 1.
Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q62711;
Q62711;
                                                                                                                                                                                                                                                                                    104 FQRYPDGSFDPNCCFSIYHGSHRESLDLYSTSSEVARTWYTGLRYLMAGISDEDSLARR- 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR002048;
InterPro; IPR001849;
InterPro; IPR001192;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1996 (TrEMBLrel.
01-NOV-1996 (TrEMBLrel.
01-JUN-2002 (TrEMBLrel.
                                             282
                                                                                         190
                                                                                                                                                                           131
                                                                                                                                                                                                                      163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; U16655; AAC52346.1; -. HSSP; P10688; 1QAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phospholipase C-delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=SPRAGUE DAWLEY; TISSUE=BRAIN; MEDLINE=96132878; PubMed=8550568;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-SPRAGUE DAWLEY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Phospholipase C delta-4.
                                                                                                                                                                                                                                                                 78
                                                                                                                                                                                                                                                                                                                                                                          45 MQEGMQMVKLRGGSKGLVRFYYL-DEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEV 103
                                                                                                                                                                                                                                                                                                                                                    18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Molecular cloning, splice variants,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                           YQEQLDQMLREWFQQADRNQDSRMSFREAQRLLLLMNVEMDEEYAFSLFQEADV-SQSNT
                           EQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYL
                                                                      LDSEEFVQFYKALTKRTEIEELFENFSSDKQKLTLLEFVDFLREEQKESDHSSDLALKLI
                                                                                                               LGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDII
                                                                                                                                                                                                    -QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGT 221
                                                                                                                                                                                                                                               L-RYLVEEFPLEQGFTIVFNGRRENLDLVANSVEEAQTWNRGLQLLV-----DLVARMN 130
                                                                                                                                                                                                                                                                                                                                 MQKGTMMRKVRTKSWKKLRYFRLQDDGMTVWHGRHLESISKPTFSISDVERIRKGQDSEL 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PF00168; C2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IPR000909; PI_PLC_Xdom.
IPR001711; PI_PLC_Xdom.
7168. ~~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rhee S.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IPR000008; C2.
                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative 137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       271:25-31(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----GLEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                 20.6%; Score 1315.5; 36.6%; Pred. No. 1e-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EF-hand.
               01,
01,
21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. 1e-74;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Created)
               -
-
-
-
-
-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5DD56D1D4AA21356 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches 281; Indels 123;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              expression, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         772 AA
           DB 11; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            purification
                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rattus
                                                                           249
                                                                                                                                                             189
                                                                                                                                                                                                                                                                                                                                                                                                                      18;
    AC REPORTED AND ACTION OF THE PROPERTY OF THE 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 11
017232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                           **The sequence of C. elegans cosmid K10F12.";

"The sequence of C. elegans cosmid K10F12.";

"The sequence of C. elegans cosmid K10F12.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                               O17232 PRELIMINARY; PRT; 895 AA.
O17232;
O1-JAN-1998 (TrEMBLrel. 05, Created)
O1-JAN-1998 (TrEMBLrel. 05, Last sequence update)
O1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical 101.3 kDa protein.
STRAIN-BRISTOL N2,
                    SEQUENCE FROM N.A.
                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                        investigating biology. The C Science 282:2012-2018(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                             Caenorhabditis elegans.
                                                                                                                                                                                                      "Genome sequence of the nematode C. elegans: a platform for investigating biology. The C. elegans Sequencing Consortium
                                                                                                                                                                                                                                                                             MEDLINE=99069613; PubMed=9851916;
                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. STRAIN-BRISTOL N2;
                                                                                                                                                                                                                                                                                                                                                                    knabditidae; Peloderinae;
NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               753 HPASIFVYTCMQE 765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       469 ------GNKSKNK 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     462 ILVKGKKL-PANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSL 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    250 DRYEPSENGRLLRYLSKDGFLSYLCSADGNIFNPDCLPIYQDMTQPLSHYYINSSHNTYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q--LVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WGETFYFQIQVPELAMLRFVVKDYSRTSRNNFIGQYTLPWTCMKHGYRHVSLLSKDGTSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AQILVVQVISGQRLPKVDKT----KETTVVDPLVRVELYGVPEDTKQQETSYVENNGINPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRK 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EEASIFVHVAVSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WEETLVEMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL-----EGM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VGCQMVAMNMQTAGSAMDICDGLFRQNGGSGYVLKPEFLRDTQSSFNPMK----PVSLYK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLKK 754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -SKENYHIYDISSFSESKAKNLIREAGNEFVQHNARQLCRVYPSGLRTDSSNYNPQEHWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWN 696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THD 636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ILVKGKKLRTIEVVESDKEEEELEKDEGSDLD---------PASAELD--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YAFIKNEYPVILSIENHCSVIQOKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGK 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LGDQFCGQSSVEGYIRALKRGCRCVEVDTWDGPDGEPVVYHGRTLTSRILFKDVLATLAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ------FLLQSSTTILCPDLSALVVYLRTAPFCSFTH- 520
                                                           databases
                                                                                                                                                                                                           Consortium.
```

752

579

468

369 401

Ş В 밁 δÃ 밁 Qy DЬ Qy

Ş

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뮵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ρ
                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                        δõ
                                                                                                                            ₽
                                                                                                                                                        δÃ
                                                                                                                                                                                          В
밁
                         Q
                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Direct Submission.";
Submitted (AUG-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AF025462; AAB71005.1; -.
HSSP; P10688; LDJH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR001849; PH.
InterPro; IPR001192; PI_PLC.
InterPro; IPR000999; PI_PLC_Xdom.
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Waterston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SMART; SM00148; PLCXc; 1.
SMART; SM00149; PLCYc; 1.
PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_X_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR00360; C2DOMAIN.
PRINTS; PR00390; PHPHLIPASEC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ptam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProDom;
                                                                                                                                                                                              456
                                                                                                                                                                                                                                                           396
                                                                                                                                                                                                                                                                                                                          337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     165 YECKPSSSQFATLRERWIESVFDEFDTKKNGHLDEQTAFKAILHINSRISHHRLTNKLKE
                            608 GATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYL 667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     38 VERCMGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRP-SRKNEKAKISIDSIQEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LGKNTELL-RSSDEVFTDLQEECLFSIIYGDNYETLDLIASSGDDANIWVTGLMALTSNK 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VSDCWNYMQTGSDFVKLRGTNRQFRRFFSLDADLSYIRWTPTNKKPHKARIAIDEIREIR 105
                                                                                           KAEEDVES---GEDAGASRRNGRLVYGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSR 607
                                                                                                                                                                                                                                                                                                                                                                                                                    LQVEQKMAGVTLESCODIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQ 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADTDDHQGTLGFEE-----FCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRF 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EGRQSEVFQRYPDGSF---DPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGI 153
                                                                                                                                                              KLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCED-----PNNFSVSTLSPSGKLGRKS
                                                                                                                                                                                            LYLPKNDPTNWDDEKNCPTPWDFQNRILIVGKKLD---NPDTDSGEVSEED--DSL----
                                                                                                                                                                                                                       LDL---SSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDC
                                                                                                                                                                                                                                                           MVQNGQTATSKITISSALRIIREFAFERSRYPLLLKVSVHCSTDWQKVAAMLIVTHLGTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                      V-----TIGAEESERGKIEKSHFVDLYKEIGTRPEVYFLMVRYAN-KDYLSCQDLRLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SD-EDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PF00388; PI-PLC-X; 1. PF00387; PI-PLC-Y; 1.
                                                              ----DLLSTAPGSTTMSSRKN----
                                                                                                                                                                                                                                                                                        IVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDK 438
                                                                                                                                                                                                                                                                                                                          DMKQPFSRYFISSSRKSYLVEDQL-GPSSSDGFSSALKRNCRFLEFDIWDPNEADGDTEP
                                                                                                                                                                                                                                                                                                                                                       DMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWD----GPDGEP
                                                                                                                                                                                                                                                                                                                                                                                     PF00168;
                                                                                                                                 -----ASTTRR------KSKRIQLCKELSDLVPVFFNVKTLN------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; PD001202; PI_PLC_Y;
SM00239; C2; 1.
SM00233; PH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IPR000008; C2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                895 AA; 101303 MW; 424D2443D400655D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative 138; Mismatches 266; Indels 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20.3%; Score 1297; DB 5; 35.0%; Pred. No. 1.8e-73;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 5;
   -LASVTESTCLRLMHTYATEFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 895;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                           276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96
                                                                                                                                                                                                 506
                                                                                                                                                                                                                                  495
                                                                                                                                                                                                                                                                455
                                                                                                                                    537
      575
```

```
, Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 12
                                                  PRINTS; PRO0300; C2DOMAIN.

PRINTS; PRO0300; PHPHLIPASEC.

PRINTS; PRO0302; PI_PLC_Y; 1.

SMART; SM00239; C2; 1.

SMART; SM00054; EFh; 2.

SMART; SM00148; PLCXc; 1.

SMART; SM00148; PLCXc; 1.

SMART; SM00148; PLCYc; 1.

R SMART; SM00149; PLCYc; 1.

R SMART; SM00149; PLCYc; 1.

R PROSITE; PS50004; PLCYc; 1.

PROSITE; PS50004; PLDOMAIN; 1.

PROSITE; PS50007; PJPLC_X_DOMAIN; 1.

SEQUENCE 771 AA; 88862 MW; FBFBD64A8B86E4FF CRC64;
           Query Match
Best Local
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q63693
                                                                                                                                                                                                                                                                                                                                                                                                                     Liu N., Fukami K., Yu H., Takenawa T.;
"A new phospholipase C delta 4 is induced
and appears in the nucleus.";
J. Biol. Chem. 271:355-360(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rattus norvegicus (Rat)
Eukaryota; Metazoa; Choi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-NOV-1996 (TrEMBLrel. 01-JUN-2002 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q63693;
                                                                                                                                                                                                                                                                                                                                                                                            EMBL; D50455; BAA09046.1; HSSP; P10688; 1QAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=96132927; PubMed=8550586;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-DONRYU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Phodpholipase C delta4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    636
                                                                                                                                                                                                                                           Pfam; PF00036; efhand; 2. Pfam; PF00169; PH; 1. Pfam; PF00388; PI-PLC-X; 1. Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                             InterPro; IPR000909;
InterPro; IPR001711;
Pfam; PF00168; C2; 1
                                                                                                                                                                                                                                                                                                                                    InterPro; IPR001849;
InterPro; IPR001192;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        576 QATRNYCVRVFPNPSRVDSSNLNPQEFWNNGVQMVCLNYQTPGLMMDLQEGKFSDNGGCG
                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR002048;
                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR000008; C2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TIPFECLOPGYRHIYLLNNEGDPLEHATLFVHVAITNRRGGGKAKK 796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TLAFSSMMPGYRHVYL---EG--MEEASIFVHVAVSDI--SGKVKQ 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BIIGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQR 847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YYLKPQVMKDDMFVPSDRVPTSPQI----LHLRILSGQQLPRPRGS--NAKGDSADPFVVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RENQQQLSRIYBSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EVFGLPGDCAEERTRTVRNDSINPSFDESFQFQVSVPELALVRFLVLDDDYIGDDFIGQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEV 787
            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chordata;
                                                                                                                                                                                                                                                                                                            PI_PLC_Xd
                                                                                                                                                                                                                                                                                                                                                       PH.
                                                                                                                                                                                                                                                                                                                                                                   EF-hand.
           20.3%; Score 1294; 36.8%; Pred. No. 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21,
21,
  134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
                                                                                                                                                                                                                                                                                                                             Xdom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Ver
Sciurognathi;
  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          771
               ; DB 11;
2.3e-73;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vertebrata; Euteleostomi;
thi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                     at
  280;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   s-phase of the
                            Length
  Indels 126;
                              771;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus
  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                      cycle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       727
```

DЬ 8

MQKGTMMRKVRTKSWKKLRYFRLQDDGMTVWHGRHLESISKPTFSISDVERIRKGQDSEL MQEGMQMVKLRGGSKGLVRFYYL-DEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEV 103

77

45 18

δõ 밁

Gaps

22;

```
Q8TEC
                                                                                                                                                                                                                                                                                               RESULT 13
                                                                                                                                                            01-JUN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                      Q8TEC1;
                                                                                                                                                                                                                                                           Q8TEC1
        Kawabata A., Hikiji T.,
                                                                                Sukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                  CDNA FLJ23660 fis, clone HEP00931.
                                                                       CBI_TaxID=9606;
                                                                                                                                 lomo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                   866
                                                                                                                                                                                                                                                                                                                                                             751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             636 DIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNDQPFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          580 KKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----TH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      520 LIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRR 579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                402 YAFIKNEYPVILSIENHCSVIQQKKM-AQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                78 L-RYLVEEFPLEQGFTIVFNGRRPNLDLVANSVEEAQTWMRGLQLLV-----DLVARMN 130
                                                                                                                                                                                                                                                                                                                                                         LHPASHFVYTCMQE 764
                                                                                                                                                                                                                                                                                                                                                                                             MEEASIFVHVAVSD 879
                                                                                                                                                                                                                                                                                                                                                                                                                            YWGETFYFQIQVPELAMLREVYKDYSRTSRNNFIGQYTLPWTCMKHGYRHVSLLSKDGTS 750
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TWEETLVEMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL----EG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KAQILVVQVISGQRLPKVDKT----KETTVVDPLVRVELYGVPEDTKQQETSYVENNGINP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KQ--LVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNP 811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NVGCQMVAMNMQTAGSAMDICDGLFRQNGGSGYVLKPEFLRDTQSSFNPMK----PVSLY 633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAGCOMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLK 753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -- SKENYHTYDISSFSESKAKNLIREAGNEFVQHNARQLCRVYPSGLRTDSSNYNPQEHW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KILVKGKKL-PANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDS 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LGDQFCGQSSVEGYIRALKRGCRCVEVDTWDGPDGEPVVYHGRTLTSRILFKDVLATLAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DRYEPSENGRELRYLSKDGFLSYLCSADGNIFNPDCLPIYQDMTQPLSHYYINSSHNTYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDII 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KILVKGKKLRTIEVVESDKEEEELEKDEGSDLD--------PASAELD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            YAFQSSDYPLILSLDNHCTWEQQKTMLAHHLIAILGEQL-LSTTLEEQIDIMPSPE-LRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LDSEEFVQFYKALTKRTEIEELFENFSSDKQKLTLLEFVDFLREEQKESDHSSDLALKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FORYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YQEQLDQMLREWFQQADRNQDSRMSFREAQRLLLLMNVEMDEEYAFSLFQEADV-SQSNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -ORTROWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKOMFREADTDDHQGT 221
                                                                                                                                                                                                                                                       PRELIMINARY;
      Kobatake N., Inagaki H.,
                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----FLLQSSTTILCPDLSALVVYLRTAPFCSFTH
                                                                                                                                                                                                                                                   789 AA
    Ikema
Υ.,
  Okamoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        519
  ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  . . .
Д
                                                         밁
                                                                                                                                     밁
                                                                                                                                                                             δÃ
                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                        S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     γΩ
                                                                                                                                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                                                                                                                                                        Ϋ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RA RA RA SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
              875 VAV 877
                                          724 LRAPELALVRFVVEDYDATSPNDFVGQFTLPLSSLKQGYRHIHLLSKDGASLSPATLFIQ 783
                                                                   672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Okitani R., Ota T., Suzuki Y., Obayashi M., Nishi T., Shibahara T., Tanaka T., Nakamura Y., Isogai T., Sugano S.;
"NEDO human cDNA sequencing project.";
Submitted (FEB-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; AK074240; BAB85029.1;
                                                                                                                                                                               766
                                                                                                                                                                                                      616 TPGYEMDLNAGRFLVNGQCGYVLKPACLRQ----PDSTFDPEYPGPPRTTLSIQVLTAQQ
                                                                                                                                                                                                                                                                                                                                            648
                                                                                                                                                                                                                                                                                                                                                                                                                          590
                                                                                                                                                                                                                                                                                                    556
                                                                                                                                                                                                                                                                                                                                                                                    523
                                                                                                                                                                                                                                    708 SEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSE-DP-LPGQLKKQLVLRIISGQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          485 PAARSEDGR--ALSDREEEEEDDEE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    410 PVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKL 469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    350 SRVDMYAWVLQAGCRCVEVDCWDGPDGBPIVHHGYTLTSKILFKDVIETINKYAFIKNEY 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           305 AKQHELMTLDGFMMYLLSPEGAALDNTHTCVFQDMNQPLAHYFISSSHNTYLTDSQIGGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       170 LKOTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCA 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  131 GAFAPARCLTIAFKGRRKNLDLAAPTAEEAQRWVRGLTKLRARL---DAMSQRERL-DHW 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              73 KIRSRTWHKERLYRLQEDGLSV-WFQRRIPRAPSQHIFFVQHIEAVREGHQSEGLRRF-G 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26 VAAPVA--LPSPPTPSDGGTKRPGLRAL-----KKMGLTEDEDVRAMLRGSRLR 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MAPPTAGPLPGPALPPEDPGPDPESRWLFLSANILPVVERCMG------AMQEGMQMV 52
                                                                                                                                     LPKLNAEKPH---
                                                                                                                                                                LP-----KPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEETLVFM 820
                                                                                                                                                                                                                                                                                                                           SSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQ 707
                                                                                                                                                                                                                                                                                     SSLSERKAKKLIREAGNSFYRHNARQLTRYYPLGLRNNSANYSPQEMWNSGCQLVALNFQ
                                                                                                                                                                                                                                                                                                                                                                                                             ASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHDIE--MEAASSWQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              {\tt PVILSLENHCGLEQQAAMARHLCTILGDMLVTQALDSPNPEELPSPEQLKGRVLVKGKKL}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SSTEAYVRAFAQGCRCVELDCWEGPGGEPVIYHGHTLTSKILFRDVVQAVRDHAFTLSPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----AAAQRRLAK------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FLRRLLKRPELEEIFHQYSGEDRVLSAPELLEFLE-DQGEEGATLARAQQLIQTYELNET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPE 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQW 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KLRGGSKGLVRFYYLDEHRSCIRW---RPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPD 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IHSYLHRADSNQDSKMSFKEIKSLLRMVNVDMNDMYAYLLFKECDHSNNDRLEG-AEIEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     789 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative 136; Mismatches 290; Indels 168;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89258 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20.2%; Score 1289; DB 4; 34.2%; Pred. No. 4.9e-73;
                                                                                                                            -SIVDPLVRIEIHGVPADCARQETDYVLNNGFNPRWGQTLQFQ 723
                                                                                                                                                                                                                                                                                                                                                                     --QISPELSALAVYCHATRLRTLHPAPNAPQPCQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C6901404D2C9D070 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 789;
```

QΥ

밁 δĀ 밁 Qy Б Qy B Qy

δõ Ъ

RR POC OC DET DE CO

874

671 765 647

522

555

589

507

484

424

364

304

밁 Ωy 맑 Ş В ρ В Qy 밁 γ 밁 Qy 밁 Ş ₽

밁

784

IRI

786

```
RESULT 14
Q60450
ID 06045
AC 06045
AC 06045
DT 01-NC
DT 01-NC
DT 01-NC
DT 01-NC
DT 01-NC
DT 01-NC
RA CCILC
OC EULA
OC 
     밁
                                                    Ş
                                                                                                            В
                                                                                                                                                     δÃ
                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS; PR00390; PHPHLIPASEC.
PRODOM; PD001207; PI_PLC_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00233; PH; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCXC; 1.
PROSITE; PS50004; C2_DOMAIN; 1.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50007; PIFLC_X_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q60450 PRELIMINARY; PRT; Q60450; Q. (TrEMBLrel. 01, Create 01-NOV-1996 (TrEMBLrel. 01, Last se 01-JUN-2002 (TrEMBLrel. 21, Last al phospholipase C-deltal (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Leonis M.A., Silbert D.F.;
"Organization of the Hamster Phospholipase C-deltal Gene:Differential Loss of Separate Alleles of the Phospholipase C-deltal Gene in Two Fibroblast Mutants Lacking Phospholipase C-deltal.";
Submitted (MAR-1996) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cricetulus griseus (Chinese hamster).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sclurognathi; Muridae; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cricetulus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=10029;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        interPro;
     184
                                                       217
                                                                                                            125
                                                                                                                                                              160
                                                                                                                                                                                                                                                                     100
                                                                                                                                                                                                                   69
                                                                                                                                                                                                                                                                                                                         10
                                                                                                                                                                                                                                                                                                                                                                              44
                                                                                                                                                           ARRORTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD---TD 216
                                                                                                                                                                                                                                                            QSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSL 159
                                                                                                                                                                                                                                                                                                                                                        AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
                                                    DHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLES
                                                                                                         DQRQKLQ-HWTHSCLRKADKNKDNKMNFKELKDFLKELNIQVDDSYARKIFRECDHSQTD
                                                                                                                                                                                                                RTEGLEKFA-RDIPEDRCFSIVFKDQRNTLDLIAPSSADAQHWVQGLRKI---IHHSGSM
                                                                                                                                                                                                                                                                                                                    ALLKGSQLLKVKSSSWRRERFYKLQEDCKTI-WQESRKVMRSPESQLFSIEDIQEVRMGH 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PF00036; efhand; 2.
PF00169; PH; 1.
PF00388; PI-PLC-X; 1.
PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P10688;
                                                                                                                                                                                                                                                                                                                                                                                                                                   307;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PR00360; CZDOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; IPR000008; C2.
; IPR002048; EF-hand.
; IPR001849; PH.
; IPR001192; PI_PIC.
; IPR000909; PI_PIC_Xdom.
; IPR001711; PI_PIC_X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PS50008;
SLEDEEIETFYKMLTQRAEIDRVFAEAAGSAETLSVEKLVTFLQHQQREEAAGPAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         68; C2;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ĀΑ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PIPLC_X_DOMAIN; 1.
PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          84638 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         20.2%; Score 1287; DB 11; 35.8%; Pred. No. 6.1e-73;
                                                                                                                                                                                                                                                                                                                                                                                                                                   128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BE13C729C41C705E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ₹
                                                                                                                                                                                                                                                                                                                                                                                                                             279; Indels 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 745;
                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                124
                                                                                                                                                                                                                                                                                                                                                                                                                             16;
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ΩV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                RESULT 15
Query Match
Best Local
                                                         EMBL; AF
                                                                                                                                                                                                                                                                                                      OBTES7;
O1-JUN-2002 (TrEMBLrel. 21, Created)
O1-JUN-2002 (TrEMBLrel. 21, Last sequence up
O1-JUN-2002 (TrEMBLrel. 21, Last annotation
                                                                                                                                                                                                                                                                                                                                                                   Q8TF37
                                                                                      DNA Res.
                                                                                                  proteins."
                                                                                                                MEDLINE=21842142; PubMed=11853319;
Nagase T., Kikuno R., Ohara O.;
"Prediction of the coding sequences of unidentified human genes. )
The complete sequences of 50 new cDNA clones which code for large
                                                                                                                                                                                                                                Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                              KIAA1964
                                            SEQUENCE
                                                                                                                                                                           TISSUE-BRAIN;
                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                    NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                          KIAA1964 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                          728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             277
                                                                                                                                                                                                                                                                                                                                                                                                                                         NGDQHPSATLFVKISLQD 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --EGMEEASIFVHVAVSD 879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GFNPWWDTEFEFEVAVPDLALVRFVVEDYDASSKNDFIGQSTIPWNSLKQGYRHVHLLSK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GPWWAQKRLRVRVISGQQLPKVNKS----KNSIVDPKVIVEVHGVGQDVASRQTAVITNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SPVEMWNGGCQIVALNFQTPGPEMDVYLGRFQDNGACGYVLKPAFLRDPDTAFNPRALTQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLV 572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QLKGKILLKGKKFGGLLPAGGENGPETTDVSDEDEAAEMEDE-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MLKGKILVKGKK----LPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RAIRDYAFKASPYPVILSLENHCSLEQQQVMARHLKAILGPML-LDQPLDGVTMSLPSPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HNTYLLEDQLTGPSSTEAYIRALCKGCRCLELDCWDGPNQEPIIYHGYTFTSKILFYDVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALSLIERYEPSETAKAQRQMTKDGFLMYLLSADGSAFSLAHRRVYQDMDQPLSHYLVSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HFGGFSNPSTSGQAFYEMASFSENRALRLLQESGNNFVRHNVSHLSRIYPAGRRTDSSNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATHDIEMEAASS----WQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VRSQVQQKSKEDKLNVAPE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDP
                                                                       AB075844; BAB85550.1;
 Similarity
                                                                                      8:319-327(2001).
                                            757
                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                            AA;
                                                                                                                                                                                                                                                                                          (Fragment).
                                            85776 MW;
 20.1%;
34.1%;
Score 1281; DB 4;
Pred. No. 1.5e-72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----LSDMVIYCKSV
                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                            1CCA68FF03779055 CRC64;
                                                                                                                                                                                                                                                                                                                                                                    757
                                                                                                                                                                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                        update)
               Length 757;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----A
                                                                                                                               genes. XXII.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 299
```

```
Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
     33208453324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
                                                                                                                1738
11285
1235.5
1235.5
9997.5
996.5
9945.5
945.5
937.7
937.7
938.8
938.8
938.8
938.8
938.8
938.8
938.8
938.8
938.8
938.8
   201.5
194.5
185.5
185.5
185.5
184.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-927-112-2
6379
1 MAPPTAGPLPGPALPPEDPG.....ALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   March 28, 2003, 13:39:49; Search time 29 Seconds
(without alignments)
1726.273 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                112892 segs, 41476328 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gapop 10.0 , Gapext 0
   SwissProt_40:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length DB
   PID1_BOVIN
PIG1_BOVIN
PIG4_HUMAN
PIG1_HUMAN
PIG1_HUMAN
PIG1_RAT
PIG2_RAT
PIG2_RAT
PIG2_RAT
PIG2_RAT
PIG2_ROT
PIG2_HUMAN
PIB1_BOVIN
PIB1_BOVIN
PIB1_BOVIN
PIB1_HUMAN
PIB1_HUMAN
PIB2_HUMAN
PIB2_HUMAN
PIB2_HUMAN
PIB2_HUMAN
PIB2_HUMAN
PIB2_HUMAN
PIB2_HUMAN
PIB3_MOUSE
PIG1_MOUSE
PIG1_MOUSE
PIG1_MOUSE
PIG1_BOVIN
P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Y450_HUMAN
PID1_HUMAN
PID1_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      112892
                                                               P16885 homo sapien
P2545 drosophila
P10687 rattus norv
Q07722 bos taurus
Q9nq66 homo sapien
P10894 bos taurus
Q9nq66 homo sapien
P10817 drosophila
Q00722 homo sapien
Q01970 homo sapien
P40977 schizosacch
P51432 mus musculu
P32383 saccharomyc
Q13437 mus musculu
P3247 mus musculu
P33479 pseudorabie
Q07092 homo sapien
P31759 bos taurus
P1759 bos taurus
                                                                                                                                                                                                                                                                                                                                                                                  015147 homo sapien
P19174 homo sapien
O9qw07 rattus norv
P10686 rattus norv
P24135 rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                   P10895
P08487
Q15147
P19174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   075038 homo sapien
P51178 homo sapien
P10688 rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Description
   saccharomyc
oryctolagus
homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bos taurus
bos taurus
                                                     pseudorabie
```

		•
\$5000000000000000000000000000000000000		
Home Euche Mamm Mamm Mamm Mamm Mamm MCBJ [1] [1] [1] [1] [1] [1] [1] [1] [1] [1]		00000000000000000000000000000000000000
Homo sapiens (Human). Eukaryota; Metazoa; Chor Mammalia; Eutheria; Prin NCBI_TaxID=9606; [1] SEQUENCE FROM N.A. TISSUE-Brain; MEDLINE-BRIG662; PubMed Seki N., Ohira M., Nagax Nakajima D., Nomura N., "Characterization of cDI from human brain."; DNA Res. 4:345-349(1997). This SWISS-PROT entry in between the Swiss Instite European Bioinformal use by non-profit in modified and this statem entities requires a lice or send an email to lice cor send an email to lice entities requires a lice or send an email to lice send; AB007919; BAA3229; Hypothetical protein. SEQUENCE 425 AA; 438. puery Match set Local Similarity 99 fatches 324; Conservativ 883 KVKQALGLKGLFLRGPKP 1 101 QVKQALGLKGLFLRGPKP 943 LVLGTRDTGSKGVADDVV 1 101 LDGPGPAGMAATCMKCVV 103 LDGPGPAGMAATCMKCVV 1063 CCGLDPHAIPGRSREAPK 1123 GALQGEMSALFAQKLEEI	MAN 50_HUMAN 5038; -OCT-2001 -OCT-2001 -OCT-2001 AA0450;	184.5 181.5 180.5 179.1 179.5 177.5 177.5 176.5 176.5 176.5
(Human). (Human). (Human). (Hof) (Ho	ST/ (Rel. (Rel. (Rel. prot	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
papiens (Human). patpiens (Human). patie; Metazoa; Chordata; Craniata; Vila; Eutheria; Primates; Catarrhini; PaxID=9606; RCE FROM N.A. =-Brain; Papil1662; PubMed-9455484; N. Ohira M., Nagase T., Ishikawa K. Ina D., Nomura N., Ohara O.; Rima D.,	E 70 70 70	1685 1163 1464 1464 17664 12845 2845 2845 1388 11453 1453
Primates; Ca Primates; Ca By 15484 agase T., Is CDNA clones 9977; cDNA clones 1997; is copyrig mattics inst institution atement is n license agre covycscbshand lill DVPPPGPGPAPE CCVVGSCAGVNTC CCVVGSCAGVNTC CCVVGSCAGVNTC LILI APKGPGAWRQGG LEEIRSKSPMFSJ	ated) t seg t ann 0450.	1 CA5 1 CA5 1 CA1 1 CA1 1 SYN 1 DUS 1 APC 1 CA1 1 CA1 1 CA1 1 CA1
Ccatarrhin Catarrhin B44; Ishikawa O.; es in siz es in siz es in siz cons as lo nons as lo nons as lo b-sib.ch b-sib.ch cone 1738 ccore 1738 ccore 1738 ccore 1738 ccore 1738 p-sabapapapa li li Nagrapaapapapapapapapapapapapapapapapapap	î; ati	CA54_HUMAN Y222_HUMAN CA11_HUMAN CA11_HUMAN CA13_MOUSE SYN13_MOUSE JUNAN APC_MOUSE CA1E_HUMAN CA1E_HUMAN CA11_CHICK CA13_HUMAN CA12_MOUSE ALIGNMENT
-I., Miy -I., Miy -I., Miy -I., Miy fraction fraction antics a here are y as its ed. Usag ye http:/	425 AA. update) on update)	FF S
a N cD		P29400 Q92618 P02452 P08121 P19951 Q13951 Q02388 Q02388 P139059 P02461 P28481
leostomi; o. in libraries NA libraries EMBL collaboration strictions on its in no way and for commercial in no way and for commercial in hostic ch/announce/ 425; 0; Gaps 0; KPGRRGFPE 942		homo homo homo mus ratt homo mus homo homo homo homo mus
Gaps 0; Gaps 0; Gaps 160 RV 1002		sapien sapien musculu sapien musculu sapien musculu sapien sapien sapien sapien sapien sapien sapien
0;		

QY 밁

D

```
| RESULTA | PRESULTA |
                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/annouhce/or send an email to license@isb-sib.ch).
                                                                                  PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                     EMBL; U09117; AAA73567.1; HSSP; P10688; 1MAI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cheng H.F., Jiang M.J., Chen C.L., Liu S.M., Wong L.P., Lomasney J.W., King K.;
"Cloning and identification of amino acid residues of human phospholipase C delta 1 essential for catalysis.";
J. Biol. Chem. 270:5495-5505(1995).
-i- PUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLGLYCEROL (DAG) AND INOSITOL 1.4,5-TRISPHOSPHATE (IP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta 1
(EC 3.1.4.11) (PLC-delta-1) (Phospholipase C-delta-1) (PLC-III).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PID1_HUI
P51178;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; ve
Mammalia; Eutheria; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (Human).

Homo sapiens (Human).

Finkarvota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                             tam;
                                                                                                                                                                                                                                                                                      nterPro;
                                                                                                                                                                                                                                                                                                           nterPro;
                                                                                                                                                                                                                                                                                                                              interPro;
                                                                                                                                                                                                                                             nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-95197554; PubMed-7890667;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COFACTÓR: Calcium.

SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT I
PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.

SIMILARITY: CONTAINS 1 PH DOMAIN.

SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.
                                                                                                                                                        ; PF00036; efhand; ; PF00168; C2; 1. ; PF00169; PH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C ENZYMES:
CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 4,5-
bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISDHOSPHATE (IP3) IS MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
              S; PR00360; C2DOMAIN.
(S; PR00390; PHPHILPASEC.
(m; PD001202; PI_PLC_Y; 1.
(S) SM00239; C2; 1.
(S) SM00233; PH; 1.
                                                                                                                                                                                                                                                                                                                                                 602142;
                                                                                                                    PF00387; PI-PLC-Y; 1. PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VLVLVALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VLVLVALYPWHCLRGTLLPWLACGP
                                                                                                                                                                                                                                                                                                                                                                  HGNC:9060; PLCD1.
                                                                                                                                                                                                 ; IPR000008; C2.
; IPR002048; EF-hand.
; IPR001849; PH.
; IPR001192; PI_PLC.
; IPR001909; PI_PLC_Xdom.
; IPR001711; PI_PLC_Y.
; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 756 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FORMS
                                              Q
                                                                                         밁
                                                                                                                                                                     밁
                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 308;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
PROSITE; PS000018; EF_HAND; 2.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50004; C2_DOMAIN; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CA_BIND
DOMAIN
DOMAIN
DOMAIN
ACT_SITE
ACT_SITE
SEQUENCE
  616 NPRALAQGPWWARKRLNIRVISGQQLPKVNK---
                                                741
                                                                                                                                                                       496
                                                                                                                                                                                                                                                      488
                                                                                                                                                                                                                                                                                                                                    474
                                                                                                                                                                                                                                                                                                                                                                                                                   424
                                                                                                                                                                                                                                                                                                                                                                                                                                                         450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CA_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                44 AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                      NPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQ
                                                                                                                                                          VIYCKSVHFGGFSSPGTPGQAFYEMASFSENRALRLLQESGNGFVRHNVGHLSRIYPAGW
                                                                                                     RVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVF
                                                                                                                                                                                               VKYTKSVATHDIEMEAA---SSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSY
                                                                                                                                                                                                                                                                                 RRNGRLYVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GPALALSLIERYEPSETTKAQRQMTKDGFLMYLLSADGSAFSLAHRRVYQDMGQPLSHYL
                                                                            RTDSSNYSPYEMWNGGCQIVALNFQTPGPEMDVYQDRFQDNGACGYVLKPAFLRDPNGTF
                                                                                                                                                                                                                                                                                                                                                              RKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGAS
                                                                                                                                                                                                                                                                                                                                                                                                        -SIPSPEQIKGKILIKGKKIGGLIPPGGEGGPEATVVSDEDEAAEMEDEAV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                            TTLPSPQMLKGKILVKGKKLPANISEDAEEGE----VSDEDSADEIDDDCKLLNGDASTN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDIIGDKL---DLSSVSSEDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VSSSHNTYLLEDQLAGPSSTEAYIRALCKGCRCLELDCWDGPNQEPIIYHGYTFTSKILF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TLESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILF::|||||||:|||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SQTD----SLEDEETEAFYKMLTQRVEIDRTFAEAAGPGETLSVDQLVTFLQHQQREEAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --TDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SGSMDQRQKLQ-HWIHSCLRKADKNKDNKMSFKELQNFLKELNIQVDDSYARKIFRECDH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RTEGLEKFARDVPE-----DRCFSIVFKDQRNTLDLIAPSPADAQHWVLGLHKI---IHH 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EDSLARRORTROQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QSEVFQRY----PDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALLKGSQLLKVKSSSWRRERFYKLQEDCKTI-WQESRKVMRTPESQLFSIEDIQEVRMGH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               L1pi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21
153
189
296
492
616
616
311
356
AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               id
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               degradation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  164
200
440
609
720
311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             85763 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PH.

EF-HAND 1 (POTENTIAL).

EF-HAND 2 (POTENTIAL).

DOMAIN X.

DOMAIN Y.

C2 DOMAIN.

BY SIMILARITY.

BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 1285; DB 1;
Pred. No. 1.6e-55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Transducer; Calcium-binding; Repeat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AD9A4251C5EBADFB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
NKNSIVDPKVTVEIHGVSRDVASRQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            265;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 756;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                             ----LAOELSDM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                      800
                                                                              615
                                                                                                                                                             555
                                                                                                                                                                                                                                           495
                                                                                                                                                                                                                                                                                 625
                                                                                                                                                                                                                                                                                                                          487
                                                                                                                                                                                                                                                                                                                                                                                                                                              505
                                                                                                                                                                                                                                                                                                                                                                565
                                                                                                                                                                                                                                                                                                                                                                                                      473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          79
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.

MEDLINE-88270495; PubMed=3390863;

MEDLINE-88270495; PubMed=3390863;

Suh H.W., Rhee

"Cloning and sequence of multiple forms of phos
Cell 54:161-169(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P10688; Q9QVD3; Q9QVD4; Q9QVD5;
01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta
(EC 3.1.4.11) (PLC-delta-1) (Phospholipase C-delta-1) (PLC-III).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Grobler J.A., Essen L.-O., Williams R.L., Hurley J.H.; "C2 domain conformational changes in phospholipase C-d Nat. Struct. Biol. 3:788-795(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ferguson K.M., Lemmon M.A., Schlessinger J., Sigler P.B.; "Structure of the high affinity complex of inositol trisphosphate with a phospholipase C pleckstrin homology domain."; Cell 83:1037-1046(1995).
                                              Essen L.-O., Perisic O., Lynch D.E., Katan M., Williams R.L.;

Essen L.-O., Perisic O., Lynch D.E., Katan M., Williams R.L.;

R ternary metal binding site in the C2 domain of phosphoinositide-
specific phospholipase C-deltal.";

Biochemistry 36:2753-2752(1997).

-I- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
C ENZYMES.

-I- CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-

-I- CATALYTIC ACTIVITY: 1-Phosphatidyl-1D-myo-inositol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PID1_RAT
                                                                                                                                                                                                                                                                                                                                                                                                               Essen L.-O., Perisic O., Cheung R., Katan M., Williams R.L. "Crystal structure of a mammalian phosphoinositide-specific phospholipase C delta.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=96107342; PubMed=8521504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Iwanaga S., Hirata M.;
"Putative inositol 1,4,5-trisphosphate binding proteins in rat brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kanematsu T., Takeya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=92202192; PubMed=1313009;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 50-57; 128-140 AND 728-738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                X-RAY CRYSTALLOGRAPHY (2.4 ANGSTROMS) OF 133-756
MEDLINE-96186808; PubMed-8602259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-96378790; PubMed-8784353;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                       MEDLINE-97215812; PubMed-9062102;
                                                                                                                                                                                                                                                                                                                                    X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 133-756
                                                                                                                                                                                                                                                                                                                                                                                        Nature 380:595-602(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 12-130.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                801 TRVVDDNGENPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYR 859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (-RAY CRYSTALLOGRAPHY (2.4 ANGSTROMS) OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biol. Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HVHLMSKNGDQHPSATLFVKISLQD 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TAVITNNGENPWWDTEFAFEVVVPDLALIRELVEDYDASSKNDFIGOSTIPLNSLKOGYR 731
                            bisphosphate + H(2)0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HVYL----EGMEEASIFVHVAVSD 879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  267:6518-6525(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        H., Watanabe Y., Ozaki S.,
                               D-myo-inositol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               756 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  205-756
                               1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             phospholipase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Yoshida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ġ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C-delta 1.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ĺ.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Koga T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus
```

```
SOLUTION OF THE STATE OF THE ST
                Ş
                                                         밁
                                                                                             Qy
                                                                                                                                                          Query Match
Best Local
                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PIR;
PDB;
PDB;
PDB;
PDB;
PDB;
PDB;
                                                                                                                                                                                                                                                                                                                                            CA_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---
                                                                                                                                                                                                                                        ACT_SITE
                                                                                                                                                                                                                                                                                                   DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; M20637; AAA41886.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR00360; C2DOMAIN.
PRINTS; PR00390; PHPHLIPASEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR001192; PI_PLC.
InterPro; IPR000909; PI_PLC_X.
InterPro; IPR001711; PI_PLC_X.
InterPro; IPR001711; PI_PLC_Y.
Pfam; PF00036; efhand; 2.
                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SMART; SM00239; C2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProDom; PD001202; PI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                       3D-structure
                                                                                                                                                                                                                                                                                                                                                                                                                            Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      nterPro;
21 ALLKGSQLLKVKSSSWRRERFYKLQEDCKTI-WQESRKVMRSPESQLFSIEDIQEVRMGH 79
                                                                                               44 AMQEGMOMYKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COFACTOR: Calcium.

SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.

SIMILARITY: CONTAINS 1 PH DOMAIN.

SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       European Bioinformatics Institute. There are no rest by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PF00387; PI-PLC-Y; 1. PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PF00036; efhand;
PF00168; C2; 1.
PF00169; PH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SM00148; PLCXc; 1. SM00149; PLCYc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SM00149;
                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                PS50004;
                                                                                                                                                                                                                                                                                                                                                                                                                                             PS50008;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PS00018; EF_HAND; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-JUL-97.
23-JUL-97.
07-JUL-97.
07-JUL-97.
07-JUL-97.
07-JUL-97.
07-JUL-97.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IPR002048; EF-hand. IPR001849; PH.
                                                                                                                                                                                                                                                                                                                                                                                                                          Lipid
                                                                                                                                                                                                                         756
                                                                                                                                                                                                                                          153
189
189
296
492
630
311
                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B28821
                                                                                                                                                                                                                         AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PLCYc;
                                                                                                                                                                                                                                                                                                                                                                                                                          degradation;
                                                                                                                                                                                                                                                                                                                                                                                                                                               PIPLC_X_DOMAIN; 1. PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PH_DOMAIN; 1.
C2_DOMAIN_2; 1.
                                                                                                                                                                                                                                            130
164
200
440
609
720
311
                                                                                                                                                                                                                         85962 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PLC_Y;
                                                                                                                                                              19.7%; Score 35.8%; Pred.
                                                                                                                                         131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              _Xdom.
                                                                                                                                                                                                                                                                                PH.

EF-HAND 1

EF-HAND 2

DOMAIN X.

DOMAIN Y.

C2 DOMAIN.
                                                                                                                                                              Score 1258;
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                                                                                                            Transducer; Calcium-binding; Repeat;
                                                                                                                                                                                                                         E33F2313AC81E9F9 CRC64;
                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                   (POTENTIAL).
                                                                                                                                                              DB 1;
.2e-54;
                                                                                                                                           273;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Usage by
                                                                                                                                                                               Length 756;
                                                                                                                                           Indels 148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and for commercial
                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                             19;
```

Qy 밁

```
RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                      01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta
(EC 3.1.4.11) (PLC-delta-1) (Phospholipase C-delta-1) (PLC-III)
                                                                                                                                                                                                                                                                                                                                                     BOVIN
                                                                    Bovidae;
                                                                             Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutel
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora;
                                           Bovidae; Bovinae;
NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                          PID1_BOVIN
P10895;
                                                                                                                                 os taurus (Bovine).
                                                                                                                                                          CD
EQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                            737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----EGMEEASIFVHVAVSD 879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TQGPWWRPERLRVRIISGQQLPKVNK----NKNSIVDPKVIVEIHGVGRDTGSRQTAVIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSE
                                                                                                                                                                                                                                                                                                                                                                                                                                       SKNGDQHPSATLFVKISIQD 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NNGFNPRWDMEFEFEVTVPDLALVRFMVEDYDSSSKNDFIGQSTIPWNSLKQGYRHVHLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NYSPVEMWNGGCQIVALNFQTPGPEMDVYLGCFQDNGGCGYVLKPAFLRDPNTTFNSRAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SVHFGGFSSPGTSGQAFYEMASFSESRALRLLQESGNGFVRHNVSCLSRIYPAGWRTDSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SVATHDIEMEAASS----WQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGR 570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTK 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --ALSLIERYEPSETAKAQRQMTKDGFLMYLLSADGNAFSLAHRRVYQDMDQPLSHYLVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PEQLKGKILLKGKKLGGLLPAGGENGSEATDVSDEVEAAEMEDEAV------RSQVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PQMLKGKILVKGKK----LPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVE 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VLRAIRDYAFKASPYPVILSLENHCSLEQQRVMARHLRAILGPIL-LDQPLDGVTTSLPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSHNTYLYGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----SLEDEEIETFYKMLTQRAEIDRAFEEAAGSAETLSVERLVTFLQHQQREEEAGPAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQK--MAGVTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SSHNTYLLEDQLTGPSSTEAYIRALCKGCRCLELDCWDGPNQEPIIYHGYTFTSKILFCD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHYHQDMTQPLSHYFIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DQRQKLQ-HWIHSCLRKADKNKDNKMNFKELKDFLKELNIQVDDGYARKIFRECDHSQTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ARRORTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD---TD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RTEGLEKFA-RDIPEDRCFSIVFKDQRNTLDLIAPSPADAQHWVQGLRKI---IHHSGSM
                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                  Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----KLKLVPELSDMITYCK
                                                                                                                                                                                                                                                                                                                            695
                                                                                                                                                                                                                                                                                                                          R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----KPKED-----
                                                                                                 Euteleostomi;
                                                                               Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            135
```

Ωy

밁 γQ

δÃ Ъ

γ ф

B Ş 밁 Ş B δã В Qy

밁

Ş g Q 뫄 Š 멍 Qy

밁

```
`
                                                                                                                                                                                                                                                                                                                                                            SATATATATAR BORGER REPRESENTATION OF THE FET THE PROPERTY OF T
                 Š
                                                                  밁
                                                                                                             δÃ
                                                                                                                                                                  밁
                                                                                                                                                                                                           β
                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                     Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CA_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Suh P.-G., Ryu S.H., Moon K.H., Sun H.W., ALLEG C.P.,
"Cloning and sequence of multiple forms of phospholipase C.";
Cell 54:161-169(1988).
-1- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS00018; EF_HAND; 2.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50004; C2_DOMAIN_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF00036; efhand; Pfam; PF00168; C2; 1. Pfam; PF00169; PH; 1.
199 VNLPRQRVKQMFREAD----TDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLD
                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS50007; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00388; PI-PLC-Y; 1. Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                 NIAMOC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ProDom; PD001202;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR000909; InterPro; IPR001711;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; M20638; AAA30710.1; -. PIR; C28821; C28821.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                             MAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HSSP; P10688;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute. There are no restuse by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000008; C2.
InterPro; IPR002048; EF-hand.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=88270495; PubMed=3390863; Suh P.-G., Ryu S.H., Moon K.H., S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nterPro;
                                                                  57
                                                                                                                                                                                              83 EKAKISIDSIQEVSEGRQSEVFQRY----PDGSFDPNCCFSIYHGSHRESLDLVSTSSEV 138
                                                                                                                                                                  N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.

SIMILARITY: CONTAINS 1 PH DOMAIN.

SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.
                                                                                                ARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLN 198
                                                                                                                                                   ESQLFSIEDIQEVRMGHRTEGLEKFARDVPE----NRCFSIVFKDQRNTLDLIAPSPAD 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COFACTOR: COSIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                  AQHWVQGLGKI---IHHSGSMDQQQKLR-HWIHSCLRKADKNKDNKMSFKELQNFLKELN 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C28821;
                                                                                                                                                                                                                                                           296;
                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         non-profit institutions as long and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IPR001849;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              glycerol
                                                                                                                                                                                                                                                                                                                                                       695 AA;
                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C28821.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Calcium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IMAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   degradation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PI_PLC_Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                 103
139
139
379
548
659
                                                                                                                                                                                                                                                                             19.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; PI_PLC_Y.
nd; 2.
                                                                                                                                                                                                                                                                                                                                                         78685 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PI_PLC_Xdom.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PH.
                                                                                                                                                                                                                                                         122;
                                                                                                                                                                                                                                                                                                                                             PH.
EF-HAND 1 (POTENTIAL).
EF-HAND 2 (POTENTIAL).
DOMAIN X.
DOMAIN Y.
C2 DOMAIN Y.
C2 DOMAIN Y.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                Pred.
                                                                                                                                                                                                                                                                                                    Score 1235.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Transducer; Calcium-binding;
                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                No.
                                                                                                                                                                                                                                                                                .6e-53;
                                                                                                                                                                                                                                                    252;
                                                                                                                                                                                                                                                                                                 DB 1; Length 695;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Usage by
                                                                                                                                                                                                                                                    Indels 151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    restrictions on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            for
                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OF.
                                                                                                                                                                                                                                               18;
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
REAL REPORTS OF THE REAL R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PIG1_BOVIN STANDARD; PRT; 1291 AA.

P08487;

01-AUG-1988 (Rel. 08, Created)

01-AUG-1988 (Rel. 08, Last sequence update)

15-JUN-2002 (Rel. 41, Last annotation update)

15-bynn-2002 (Rel. 41, Last annotation update)

17-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
                                                                                                                SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
MEDILINE-88156963; PubMed-2831461;
Stahl M.L., Ferenz C.R., Kelleher K.L., K
"Sequence similarity of phospholipase C w
                                                                                                                                                                                                                                                                                          Bovidae;
                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          113
                                                                                                                                                                                                                                                            NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              490
   PHOSPHORYLATION
                                                         Nature 332:269-272(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            727
                                                                                                             Sequence similarity of phospholipase
                                                                                                                                                                                                                                                                                                                                                                            taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DLADRRVYQDMDQPLSHYLVSSSHNTYLLEDQLTGPSSTEAYIRALCKGCRCLELDCWDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VDQLVTFLQHQQREEEAGPAL - - ALSLIERYEPSETAKAQRQMTKDGFLMYLLSADGSAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AASLQRFLQVEQK--MAGVTLESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GYVLKPGCM---CQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LRENQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VEVEIIGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TROKKTMKLSRALSDLVKYTKSVATHDIEMEAASS----WQVSSFSETKAHQILQQKPAQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EIDDDCKLLNGDASTNRKRYENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LLGPML-LDRPLDGVVTSLPSPEQLRGKILLKGKKLGGLFPPGGEGGPEATVVSDEDEAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEGE----VSDEDSAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PNQEPIIYHGYTFTSKILFCDVVRAIRDYAFKASPYPVILSLENHCSLEQQRVMARHLRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IGQSTIPLKSLKQGYRHIHLLSKNGDQHPSATLFVKVALQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IGQRTLAFSSMMPGYRHVYL----EGMEEASIFVHVAVSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VTVEIHGVTGDVASRQTAVVTNNGFNPWWDTELEFEVAVPELALVRFVVEDYDASSKNDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GYVLKPAFLRDPNSTFNSRALAHGPWWTPKRLNVRVISGQQLPKVNK---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VRHNVNHLSRIYPAGWRTDSSNYSPVEMWNGGCQIVALNFQTPGSEMDVYQGRFLDNGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----LAKELSDMVIYCKSVHFRGFPSSGTSGQAFYEMSSFSENRALRLLQESGNSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMEDEAV-----RSQVQHKS-----KEDKLR---
                                                                                                                                                                                                                                                                                                                                                                                                                                                              .4.11) (PLC-gamma-1) (Phospholipase C-gamma-1) (PLC-II)
                                                                                                                                                                                                                                                                                          Bovinae;
                                                                                                                                                                                                                                                                                             Bos.
                                                                                                                   With
                                                                                                                   R.W., Knopf J.L.;
the non-catalytic region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    879
                                                                                                                                                                                                                                                                                                                               Pecora;
                                                                                                                                                                                                                                                                                                                                                       Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NKNSIVDPK
                                                                                                                                                                                                                                                                                                                               Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gamma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     843
```

InterPro;

IPR002048; IPR001849; IPR001192;

IPR000008;

C2. EF-hand. PH.

2PLD;

InterPro; InterPro; InterPro; InterPro; InterPro; PDB; 2PLE;

PI_PLC.
PI_PLC_xdom.
PI_PLC_x.
SH2.
SH3.

InterPro; InterPro;

IPR001452; IPR000980; IPR000909; IPR001711;

```
... yamma 1 phosphorylation on tyrosine Cell 65:435-441(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-90154081; PubMed-1689311; Whal M.I., Nishibe S., Kim J.W., Kim H.K., Rhee S.G., Carl "Identification of two epidermal growth factor-sensitive phosphorylation sites of phospholipase C-gamma in intact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Tyrosine residues in bovine phospholipase C-gamma the epidermal growth factor receptor in vitro.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=90154080; PubMed=1689310;
Kim J.W., Sim S.S., Kim U.H., Nishibe S., Whal M.I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        pascal S.M., Singer A.U., Gish G., Yamazaki T., Shoelsc Pawson T., Kay L.E., Forman-Kay J.D.; muclear magnetic resonance structure of an SH2 domain phospholipase C-gamma 1 complexed with a high affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Schlessinger J., Rhee S.G.; "PDGF stimulation of inositol phospholipid hydrolysis requires
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=91208680;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cells."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PHOSPHORYLATION SITES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rhee S.G.;
                                                                                                                                                                                                                                                     the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                       This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRUCTURE BY NMR OF 663-759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PHOSPHORYLATION SITES
                                                                                                                                                                                                                                                                                                                                                     -i- SIMILARITY: CONTAINS 2 SH2 DOMAINS.
-i- SIMILARITY: CONTAINS 1 SH3 DOMAIN.
-i- SIMILARITY: CONTAINS 1 EF-HAND CALCIUM-BINDING DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=94236690; PubMed=8181064;
                                                                                                                                                                                        EMBL;
                                                                                                                                                                                                                        or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                        entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                       between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biol. Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LINE=91208680; PubMed=1708307; H.K., Kim J.W., Zilberstein A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DIACYLCLYON: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLCLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE C ENZYMES.
                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
SIMILARITY: CONTAINS 1 C2 DOMAINS. THE SECOND ONE IS IN TWO SIMILARITY: CONTAINS 2 PH DOMAINS. THE SECOND ONE IS IN TWO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PTM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2 INVOLVES THEIR PHOSPHORYLATION BY TYROSINE KINASES IN RESPONSE TO LIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IMMUNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 4.5-bisphosphate + H(2)0 - D-myo-inositol 1.4.5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COFACTOR: Calcium.
                                                                                                                                                                                                                                                                                                                                                                                                    PARTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SYSTEM RECEPTORS
                                                                                                                                                                                                                                                                                                           SWISS-PROT entry is copyright. It is produced through a collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              77:461-472(1994).
                                                                                                                                                                           s00666;
                                                                                                                                                                                            Y00301; CAA68406.1; -.
                                                                                                                                                                                                                                                                                                       the Swiss Institute of Bioinformatics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lglycerol
                                                                                                                                           26-JAN-95.
26-JAN-95.
                                                                                                                                                                             S00666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      265:3944-3948(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                265:3940-3943(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               phospholipase C-gamma in intact HSC-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Yamazaki T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Margolis B., Kim J.G.,
                                                                                                                                                                                                                                                                       There are no restrictions ong as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          residues
                                                                                                                                                                                                                                                            Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Shoelson
                                                                                                                                                                                                                                                                                                       and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          783 and 1254.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Carpenter G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Carpenter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of
                                                                                                                                                                                                                                                            and for
                                                                                                                                                                                                                                                                                                         EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ã
```

밁

```
| SMART; SMOU252, | R | SMART; SMO0326; SH3; 1. | JR | ROSITE; PSO0018; EF_HAND; 1. | DR | PROSITE; PS50001; SH2; 2. | DR | PROSITE; PS50002; SH3; 1. | DR | PROSITE; PS50004; C2_DOMAIN; 2. | DR | PROSITE; PS50004; PIPLC_X_DOMAIN; 1. | DR | PROSITE; PS50006; PIPLC_X_DOMAIN; 1. | PROSITE; PS50006; PS50006; PIPLC_X_DOMAIN; 1. | PROSITE; PS50006; PIPLC_X_DOMAIN; 1. | PRO
                                                      Ş
                                                                                                                          밁
                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                   Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Repeat; Calcium-binding; P.

Repeat; Calcium-binding; P.

DOMMAIN 27 142

CA_BIND 165 176

DOMAIN 320 464

DOMAIN 489 523

DOMAIN 668 756

DOMAIN 668 756

DOMAIN 955 931

DOMAIN 955 1070

DOMAIN 955 1070

DOMAIN 955 1177

ACT_SITE 380 386

ACT_SI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00018; SH3; 1.

Pfam; PF000168; C2; 1.

Pfam; PF00169; PH; 2.

Pfam; PF00387; PI-PLC-Y; 1.

Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                       232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR00390; PHPHLIPASEC.
PRINTS; PR00401; SH2DOMAIN.
PRINTS; PR00452; SH3DOMAIN.
                                                                                                                                                                                                                                                                                                                      284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProDom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       74 IRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRY-PDGSF--DPNCCFSIYHGS--HRES 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                           GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY
AFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKI 462
                                                                                                                                                                                                                                                                          FEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQD-MTQPLSHYFTTSSHNTYLV 342
                                                                                                      GDQFSSESSLEAYARCLRMGCRCIELDCWDGPDGMPVIYHGHTLTTKIKFSDVLHTIKEH
                                                                                                                                                                                                                                 Y------FFLDEFVTFLFSKENSIWNSQLDEVCPDTMNNPLSHYWISSSHNTYLT
                                                                                                                                                                                                                                                                                                                                                               FLEASALRAGERPELCRVSLPEFQQFLLEYQGELWAVDRLQVQEFMLSFLRDPLREIEEP
                                                                                                                                                                                                                                                                                                                                                                                                                                MLTYS----NHKDHLDAASLQRF-------LQVEQKMAGVTLESCQDIIEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KDLKNMLSQVNYRVPNMR----FLRERLTDLEQRTSDITYGQFAQLYRSLMYSAQKTMDLP 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGT--LGFEEFCAFYK--MMSTRRDLYLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LSLQATSEDEVNMWIRGLTWLM-----EDTLQAATPLQIERWLRKQFYSVDRNREDRISA 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LDLVSTSSEVARTWVTGLRYLMAGISDEDSL-ARRORTRDQWLKQTFDEADKNGDGSLSI 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ITWSRGADKIEGAIDIREIKEIRPGKTSRDFDRYQEDPAFRPDQSHCFVILYGMEFRLKT 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; SM00148; PLCXC; 1.
; SM00149; PLCYC; 1.
; SM00252; SH2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SM00239; C2;
SM00233; PH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PD000066; SH3; 1.
PD000093; SH2; 2.
PD001202; PI_PLC_Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15.8%;
26.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   148312 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 1009; DB 1;
Pred. No. 7.8e-42;
1; Mismatches 317;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN Y.
C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PHOSPHORYLATION. PHOSPHORYLATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PHOSPHORYLATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PH 2 (SECOND PART).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9F31C7DAA3F8EA77 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1291;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels 404;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                          402
                                                                                                      400
                                                                                                                                                                                                                                                                                                                                                                      291
                                                                                                                                                                                                                                                                                                                                                                                                                                   283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       35;
```

```
RESULT
                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                            뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                    PIB4_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                              PIB4_HUMAN STANDARD; PRT; 1175 AA. Q15147; Q9UJQ2; Q9BQW5; Q9BQW6; Q9BQW8; 16-OCT-2001 (Rel. 40, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) (PLC-beta-4) (Phospholipase C-beta-4).
                                                                                                                                                                                                                                                                                                              1172 FLAQATFPVKGLKTGYRAVPLKNNYSEGLELASLLVKIDV 1211
                                                                                                       Homo sapiens (Human).
                                                                                                                           PLCB4.
                                                                                                                                                                                                                                                                                                                                                                                                                                              1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            999
                                                                                                                                                                                                                                                                                                                                                                                                              785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       820 NVEKQEGGWWRGDYGGKKQLWFPSNYVEEMVSPAALEPEREHLDENSPLGDLLRGVLDVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     401 AFVASEYPVILSIEDHCSIAQQRNMAQYFKKVLGDTL-LTKPVDIAADGLPSPNQLKRKI 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            463 LVKGKKLPA------NISEDAEEG-----
                                                                                                                                                                                                                                                                                                                                                                       VEIEVAGAEYDSIKQKTEFVVDNGLNPVWPAKPFHFQISNPEFAFLRFVVYEEDMFSDQN
                                                                                                                                                                                                                                                                                                                                                                                                                                    HCGYVLQPSVMRDEAFDPFDKSSLRGLEPCAICIEVLGARHLPK-----NGRG-IVCPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPF
                                                                                                                                                                                                                                                                                                                                            FIGORTLAFSSMMPGYRHV----YLEGMEEASIFVHVAV 877
                                                                                                                                                                                                                                                                                                                                                                                                    VEVEIIGLPVDCSREQTRVVDDNGFNPTW-EETLVFMVHMPEIALVRFLVWDHDPIG-RD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KFLQYNRLQLSRIYPKGQRLDSSNYDPLPMWICGSQLVALNFQTPDKPMQMNQALFLAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GKMMERR-KKIALELSELVVYCRPVPFDEEKIGTERACYRDMSSFPETKAEKYVNKAKGK 998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATROKKTMKLSRALSDLVKYTKSVATHD--IEMEAASSWQVSSFSETKAHQILQQ-KPA 664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACQIAVRPEGKNNRLEVESISMASVAHWSLDVAADSQEELQDWVKKIREVAQTADARLTE 939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -------RNGRLVVGSFSRRKKKGSKLKKAASVEE-----GDEGQDSPGGQSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALEKIGTAEPDYGALYEGRNPGFYVEANPMPTFKCAVKALFDYKAQREDELTFTKSAIIQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NSYAISFRAEGKIKHCRYQQEGQTVMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPINEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DGSFLVRESETFYGDYTLSFWRNGKYQHCRIHSRQDAGTPKFFLTDNLVFDSLYDLITHY 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LIKHKKLAEGSAYEEVPTSYMYSENDISNSIKNGILYLEDPVNHEWYPHYFVLTSSKIYY 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DVESGE-----DAGASR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----TLSPS-GKL--GR------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NNFSVS----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QQVPLRCNEFEMRLSEPVPQTNAHESKEWYHASLTRAQAEHMLMRVPRDGAFLVRKRNEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEETSSDQGNEDEEEPKEASGSTELHSNEKWFHCKLGAGRDGRHIAERLLTEYCIETGAP 579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -EVSDEDSADEIDDDCKLLNG--DASTNRKRV-----ENTAKRKLDS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----LIKES-----KIRDC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------EDP
                                                                                                                                                  beta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KSKAEE
                                                                                                                                                                                                                                                                                                                                                                          1171
                                                                                                                                                                                                                                                                                                                                                                                                        842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 529
```

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae

Hominidae;

Euteleostomi;

MEDLINE=96079091; PubMed=8530101;

SEQUENCE FROM N.A.

(ISOFORM 1).

TISSUE=Retina; NCBI_TaxID=9606

```
RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M., RA Chapg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R., RA Coulson A., Coville G.J., Deadman R., Dhami p.D., Dunn M., RA Coulson A.G., Frankland J.A., Fraser A., French L., Garner P., RA Crafham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E., RA Carafham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E., RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.J., Howden P.J., Ra Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D., RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D., RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S., RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S., RA Marsh V.L., Martin S.L., McConnachie L.J., McLay K., McMurray A.A., Lovell J.D., Marsh V.L., Martin S.L., McConnachie L.J., McLay K., McMurray A.A., Nistry D., Moore M.J.F., Mullikin J.C., Nickerson T., RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T., RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H., RA Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Shownkeen R., Sims S., RA Rice C.M., Ross M.T., Soctt C.E., Sehra C.A., Sulston J.E., Sahra H.K., Shownkeen R., Sims S., RA Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A., Tromans A.C., Whittaker P., Williams L., Williams S.A., Williams S.A., Williams L., Williams S.A., Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R., Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L., Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M., Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J., Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P., Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alvarez R.A., Ghalayini A.J., Xu P., Hardcastle A., Bhattacharya S., Rao P.N., Pettenati M.J., Anderson R.E., Baehr W.;
                                                                                                                                                                                                                                                                                                                                              This SWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rdo F.N., Pettenati M.J., Anderson R.E., Baehr W.;
"CDNA sequence and gene locus of the human retinal phosphoinositide-
specific phospholipase-C beta 4 (PLCB4).";
Zenomics 29:53-61(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=21638749;
                                                                                                                                                                              EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nature 414:865-871(2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. (ISOFORMS 1;
Pfam;
Pfam;
Pfam;
                                                                                                                                                                                                                 EMBL;
                                                                                                                                                                                                                                                                               entities requires a
                                                                                                                                                                                                                                                                                               use by non-profit institutions as long modified and this statement is not removed.
                                                                                               (nterPro;
                                                                                                                                                                                                                                                              tities requires a license agreement (S send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5 TRISPHOSPHATE (IP3) IS MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE C ENZYMES. THIS FORM HAS A ROLE IN RETINA SIGNAL TRANSDUCTION. CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-
                                                                                                                                                                                                                                                                                                                            S SWISS-PROT entry is copyright. It is produced through a ween the Swiss Institute of Bloinformatics and the EMBL European Bloinformatics Institute. There are no restric
                                                                                                                                                                                                                                                                                                                                                                                                                               ALTERNATIVE PRODUCTS: At least 3 isoforms; 1, 2 (shown here) and 3; are produced by alternative splicing.
TISSUE SPECIFICITY: PREFERENTIALLY EXPRESSED IN THE RETINA.
SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN FOUR DIFFERENT FORMS
                                                                                                                                                                                                                                                                                                                                                                                                OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY. SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COFACTOR: Calcium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bisphosphate + H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA
                                                                                                                                             L41349; AAB02027.1;
P10688; 1DJX.
PF00168; C2; 1.
PF00387; PI-PLC-Y; 1.
PF00388; PI-PLC-X; 3.
                                                                                                                                                                             AL031652; CAA21068.1; -. AL023805; CAC34525.1; -. AL023805; CAC34527.1; -. AL023805; CAC34528.1; -.
                                                                                                                              10688; 1DJX
HGNC:9059; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sequence and comparative analysis of human chromosome
                                              IPR001192; PI_PLC.
IPR000909; PI_PLC_Xdom.
IPR001711; PI_PLC_Y.
                                                                                               IPR000008;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              lycerol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PubMed-11780052;
                                                                                                                                 PLCB4.
                                                                                                                                                                                                                                                                                                                  rmatics Institute. There are no restrictions institutions as long as its content is in
                                                                                                C2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 AND 3).
                                                                                                                                                                                                                                                                                 (See http://www.isb-sib
                                                                                                                                                                                                                                                                                                 Usage
                                                                                                                                                                                                                                                                                                 ьy
                                                                                                                                                                                                                                                                                                    and
                                                                                                                                                                                                                                                                                                    for
                                                                                                                                                                                                                                                                                                                                                                  collaboration
                                                                                                                                                                                                                                                                                                                                                    outstation
                                                                                                                                                                                                                                                                                      ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20.";
                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                     밁
                                                                                                                                                                  Ş
                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                  S
                                  Š
                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VARSPLIC
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACT_SITE VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        123
                                                                                                                                      483
                                                                                                                                                                                                       423
                                                                                                                                                                                                                                      430
                                                                                                                                                                                                                                                                       363
                                                                                                                                                                                                                                                                                                                                       303
                                                                                                                                                                                                                                                                                                                                                                                                                                         260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        78
```

```
PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRINTS; PR00390; PHPHLIPASEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RQSEVFQRYPDGS--FDPNCCFSIYH----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGE------VLQLLHKLNVNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QEGAVEDRYEEESFVFEPNCLFKVDEFGFFLTWRSEGKEGQVLECSLINSIRSGAIPKDP
                                                                                                                                                                                                                                                                     YLTDILGD---KLDLSSVSSEDATTLPSPQMLKGKILVKGKKL----
                                                                                                                                                                                                                                                                                                              DGKGEDQEPIITHGKAMCTDILFKDVIQAIKETAFVTSEYPVILSFENHCSKYQQYKMSK
                                                                                                                                                                                                                                                                                                                                                  D--GPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQ
                                                                                                                                                                                                                                                                                                                                                                                       PVFLDRLELYQEMDHPLAHYFISSSHNTYLTGRQFGGKSSVEMYRQVLLAGCRCVELDCW
                                                                                                                                                                                                                                                                                                                                                                                                           IFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCW 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VSFLNEHQRDPRLNEILFPFYDAKRAMQIIEMYEPDEDLKKKGLISSDGFCRYLMSDENA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QRFLQVEQKMAGVT-----LESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P-----SGKNDEIEPTAFSYEKFYELTQKICPRTDIEDLFKKINGDKTDYLTVDQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRORVKOMFREADTDDHOGT-LGFEEFCAFYKMMSTRRDLYLLMLTYSNHK-DHLDAASL 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -ANNVSPMTCLKKHWMKLAF---MTNTNGKIPVRSITRTFASGKTEKVIFQALKEL--GL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KILAALEAVGKSENDLEGRIVCYCSGTDLVNISFTYMYAENPEYTKQWYEGLRSIIHNFR 137
                                    KKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEM-
                                                                                                                                                                                                                                YCEDLFGDLLLKQALESHPLEPGRALPSPNDLKRKILIKNKRLKPEVEKKQLEALRSMME
                                                                                                                                                     AGESASPANILEDDNEEEIESADQEEEAHPEFKFGNELSADDLGHKEAVANSVKKGLVTV
                                                                                                            IKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SM00239;
SM00148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SM00149; PLCYC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PD001202;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lipid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   splicing
313 40
                                                                                                                                                                                         PANISEDAEEGEVSDEDSADEIDDDCKL---LNGDASTNRKRVENTAKRKLDSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GSHRESLD--------LVSTSSEVARTWVTGLRYLMAGIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          degradation; Transducer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PI_PLC_Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840
902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15.7%;
29.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            134463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MISSING (IN ISOFORM 1).
LAFMININGKIPVR -> MNNNW
(IN ISOFORM 1).
MISSING (IN ISOFORM 3).
A -> P (IN REF. 1).
F -> L (IN REF. 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 999.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ÿ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              > P (IN REF. 1).
> T (IN REF. 1).
> P (IN REF. 1).
-GA----TTNIHPYLSTMINYAQPVKFQGFHVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AB2C8EB99EF57357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ם ה
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ÑO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2e-41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Phosphorylation; Calcium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  308;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MNNWNVCFFLFCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  275;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              122
                                                                                                                                                                                                                                                                                                                                                      429
                                        639
                                                                                                                                                                                               520
                                                                                                                                                                                                                                      482
                                                                                                                                                                                                                                                                                                                  422
                                                                                                                                                                                                                                                                                                                                                                                             362
                                                                                                                                                         542
                                                                                                                                                                                                                                                                             469
```

```
RX MEDLINE=21638749; PubMed=11780052;

RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R., Apeloukas P., Matthews L.H., Ashurst J.P., Babbage A.K., Bagguley C.L., Fallows M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L., RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L., RA Jones M., Bard L.M., Beard L.M., Beard D.M., Barder D.M., Barder D.M., Barder C., Carter N.P., Carder C., Carder N.P., Hall R.E., RA Grafham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D., RA Huckle E., Hunt A.R., King A., Knights A., Laird G.K., Lawlor S., Farbrash J.D., Moore M.J.P., Nollay K., McMurray A.A., Milne S.A., Mistry D., Moore M.J.P., Mullikin J.C., Nickerson T., RA Milne S.A., Mistry D., Moore M.J.P., Mullikin J.C., Nickerson T., RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I., Sims S., RA Cice C.M., Ross M.T., Scott C.E., Sehra H.K., Shownkeen R., Sims S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Burgess W.H., Dionne C.A., Kaplow J.M., Mudd R., Friesel R., Zilberstein A., Schlessinger J., Jaye M.; Characterization and cDNA cloning of phospholipase C-gamma, a magnistrate for heparin-binding growth factor 1 (acidic fibroblast growth factor) activated tyrosine kinase."; woll. Cell. Biol. 10:4770-4777(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-NOV-1990 (Rel. 16, Created)
01-NOV-1990 (Rel. 16, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase gamma 1
(EC 3.1.4.11) (PLC-gamma-1) (Phospholipase C-gamma-1) (PLC-II)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=Vein, and Brain;
MEDLINE=90355993; PubMed=2167438;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutherla; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PIG1_HUMAN
P19174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KNDKKGKANTAKANVTPQ----SSSELRPTTTAALASGVEAKKGI-ELI 914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LPTIFCNIVLKTYVPDGFGDIVDALSDPKKFLSITEKRADQMRAMGIETSDIADVPSDTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQ--TRVVDDNGFNPTW- 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELV 944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EESFVFRKVILPDLAVLRIAVYDDN~---NKLIGQRILPLDGLQAGYRHISLRNEGNKPLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EETLVF-MVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYL--EGMEEAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SYQVISGQ------FLSDKK--IGTYVEVDMYGLPTDTIRKEFRTRMVMNNGLNPVYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---IFVHVA----VSDISGKVKQALGLKGLFL------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMVSLNYQTPDLAMQLNQGKFEYNGSCGYLLKPDFMRRPDRTFDPFSETPVDGVIAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMVALNYQSEGRMLQLNRAKFSANGGCGYYLKPGCMCQ--GVFNPNSEDPLPGQLKKQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EERNIHYNMSSFNESVGLGYLKTHAIEFVNYNKRQMSRIYPKGGRVDSSNYMPQIFWNAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -EAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PLC1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            870
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       643
```

```
EMBL;
                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no was modified and this statement is not removed. Usage by and for commercial
                                                                                                                                               or send an email to license@isb-sib.ch).
                                                                                                                                                                                         entities
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kohda D., Hatanaka H., Odaka M., Mandiyan V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E., Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A., Tracey A., Tromans A.C., Vaudin M., Wall M., Walls J.M., Williams S.A., Whitehead S.L., Whittaker P., Willey D.L., Williams L., Williams S.A., Williams J.M., Hobbard T., Durbin R.M., Bentley D.R., Beck S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schlessinger J., Inagaki F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRUCTURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Solution
                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY: CONTAINS 2 SH2 DOMAINS.
SIMILARITY: CONTAINS 1 SH3 DOMAIN.
SIMILARITY: CONTAINS 1 EF-HAND CALCIUM-BINDING DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OF PLC AND ARE ESSENTIAL FOR CATALYTIC SIMILARITY: CONTAINS 1 C2 DOMAIN. SIMILARITY: CONTAINS 2 PH DOMAINS. THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PTM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2 INVOLVES THEIR PHOSPHORYLATION BY TYROSINE KINASES IN RESPOND IN LIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FUNCTION: PLC-GAMMA IS A MAJOR SUBSTRATE FOR HEPARIN-BINDING GROWTH FACTOR 1 (ACIDIC FIBROBLAST GROWTH FACTOR)-ACTIVATED
                                   A36466; A36466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PARTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SYSTEM RECEPTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COFACTOR:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   diacylglycerol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYROSINE KINASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ution structure of the SH3 domain of phospholipase c-gamma.", 72:953-960(1993).
                                                                                              M34667; AAA36452.1; -.
                                                                 AL022394;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NA sequence and comparative analysis of human chromosome 20.";
414:865-871(2001).
                                                                                                                                                                     and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BY NMR OF SH3 DOMAIN
31-AUG-94.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Calcium
                                                       CAA18537.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PubMed=7681365;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 THE SECOND ONE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ullrich A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AND IMMUNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IN TWO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESPONSE
                                                                                                                                                                                                                                                                                              collaboration
                                                                                                                                                                                                      in no way
```

Q 멂

밁 Qy В ρy 밁 ρy 밁 Qγ В

PRINTS; PRO0390; PHPHLIPASEC.
PRINTS; PRO0401; SH2DOMAIN.
PRINTS; PRO0452; SH3DOMAIN.
PRODOM; PD000066; SH3; 1.
ProDom; PD000093; SH2; 2.
ProDom; PD001202; PI_PLC_Y; 1. Pfam; PF00017; SH2; 2 Pfam; PF00018; SH3; 1 Pfam; PF00168; C2; 1. Pfam; PF00169; PH; 2. ProDom; SMART; S Pfam; PF00387; Pfam; PF00388; InterPro; InterPro; InterPro; InterPro; Genew; InterPro; InterPro; MIM; 172420; [nterPro; InterPro; SM00239; C2; 1. SM00233; PH; 2. HGNC:9065; PLCG1. ; IPR001192; PI_PLC.
; IPR000909; PI_PLC_Xdom.
; IPR001711; PI_PLC_Y.
; IPR000980; SH2.
; IPR001452; SH3. IPR000008; C2 IPR001849; PH. 31-AUG-94. PI-PLC-Y; 1. PI-PLC-X; 1. EF-hand.

```
OR THE FILL 
                                                                                                                                                      δÃ
                                                                                                                                                                                                     B
                                                                                                                                                                                                                              γ
                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
Ş
                                      맒
                                                                     Š
                                                                                                                    Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACT_SITE
ACT_SITE
MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS50003; PH_DOMAIN; 2.
PROSITE; PS50004; C2_DOMAIN(2; 1.
PROSITE; PS50007; PEPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE; PS00018; EF_HAND; PROSITE; PS50001; SH2; 2. PROSITE; PS50002; SH3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CA_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     129
  520
                                          522
                                                                                                                                                                 465
                                                                                                                                                                                                       403
                                                                                                                                                                                                                                             405
                                                                                                                                                                                                                                                                                   343
                                                                                                                                                                                                                                                                                                                         345
                                                                                                                                                                                                                                                                                                                                                                  293
                                                                                                                                                                                                                                                                                                                                                                                                        286
                                                                                                                                                                                                                                                                                                                                                                                                                                                234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      246
                                                                                  476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 74 IRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRY-PDGSF--DPNCCFSIYHGS--HRES
                                                                                                                                                                                                                                                                                 EASTLRAGERPELCRVSLPEFQQFLLDYQGELWAVDRLQVQEFMLSFLRDPLREIEEPY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYS----NHKDHLDAASLQRE-------LQVEQKMAGVTLESCQDIIEQFE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KDLKNMLSQVNYRVPNMRFLRE-RLTDLEQRSGDITYGQFAQLYRSLMYSAQKTMDLPFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYK--MMSTRRDLYLLML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LSLQATSEDEVNMWIKGLTWLM-----EDTLQAPTPLQIERWLRKQFYSVDRNREDRISA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LDLVSTSSEVARTWVTGLRYLMAGISDEDSL-ARRQRTRDQWLKQTFDEADKNGDGSLSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ITWSRGADKIEGAIDIREIKEIRPGKTSRDFDRYQEDPAFRPDQSHCFVILYGMEFRLKT
                                                                                                                      KHKKLAEGSAYEEVPTSMMYSENDISNSIKNGILYLEDPVNHEWYPHYFVLTSSKIYYSE
                                                                                                                                                                                                       VASEYPVILSIEDHCSIAQQRNMAQYFKKVLGDTL-LTKPVEISADGLPSPNQLKRKILI
                                                                                                                                                                                                                        PCPENKSKGLLGIDGETNYTRSPAGDIENPEHHHVHQD-MTQPLSHYFITSSHNTYLVGD
  ---LIKES--
                                          ETSSDQGNEDEEEPKEVSSSTELHSNEKWFHGKLGAGRDG-RHIAERLLTEYCIETGAPD
                                                                                  DA-----EEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDS------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SM00252;
SM00326;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              306;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SM00149;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Calci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          953
1075
335
380
771
                                                                                                                                                                                                                                                                                                                                                                  ----FFLDEFVTFLFSKENSVWNSQLDAVCPDTMNNPLSHYWISSSHNTYLTGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SH2;
SH3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PLCYc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          142
176
464
523
657
756
851
1070
1177
1177
335
335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15.6%;
25.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          148531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tion; Transducer;
Phosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            157; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PHOSPHORYLATION (BY SIMILARITY).
PHOSPHORYLATION (BY SIMILARITY).
PHOSPHORYLATION (BY SIMILARITY).
I -> T (IN DBSMP:753381).
/FTId=VAR_011908.
MW; AE05APP?**
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN Y.
C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
PHOSPHORYLATION (
PHOSPHORYLATION (
    KIRDC-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 997.5;
Pred. No. 2.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EF-HAND (POTENTIAL)
DOMAIN X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 (SECOND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 (FIRST PART).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .8e-41;
les 331;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PART).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SH2 domain; SH3 domain; 3D-structure; Polymorph
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Polymorphism
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              423;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                   475
                                                                                                                                                                                                         461
                                                                                                                                                                                                                                               464
                                                                                                                                                                                                                                                                                     402
                                                                                                                                                                                                                                                                                                                             404
                                                                                                                                                                                                                                                                                                                                                                                                          344
                                                                                                                                                                                                                                                                                                                                                                                                                                                  292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        128
      529
                                                                                  519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                35;
```

```
밁
ID PIB4_RAT
ID PIB4
AC Q9Q0A
AC Q9Q0D IS---
DT 16---
DT 15---
DT 15---
C DT 16---
C GN PLCT
GN PL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ġ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                β
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PIB4_RAT STANDARD; PRT; 1175 AA.

Q9QW07; Q9Z0G6; O8B356;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
(EC 3.1.4.11) (PLC-beta-4) (Phospholipase C-beta-4).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1173
                                                                                                                                                               SEQUENCE FROM N.A. (ISOFORM A).
STRAIN-Sprague-DawLey; TISSUE=Brain;
MEDLINE=94012687; PubMed=8407970;
Lee C.-W., Park D.J., Lee K.-H., Kim (
"Purification, molecular cloning, and
                                                                                                                                                                                                                                                                                                                            Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1233
     MEDLINE=93343926; PubMed=7688223;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                581
                            STRAIN=Sprague-Dawley;
                                                                                                                                           beta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          701
                                                       SEQUENCE FROM N.A. (ISOFORM B).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             œ
                                                                                                              Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GSFLVRESETFVGDYTLSFWRNGKVQHCRIHSRQDAGTPKFFLTDNLVFDSLYDLITHYQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFV 785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FLQYNRLQLSRIYPKGQRLDSSNYDPLPMWICGSQLVALNFQTPDKPMQMNQALFMTGRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KIMERR-KKIALELSELVVYCRPVPFDEEKIGTERACYRDMSSFPETKAEKYVNKAKGKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VESGE-----DAGASR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----TLSPS-GKL--GR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SYAISFRAEGKIKHCRVQQEGQTVMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPINEEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QVPLRCNEFEMRLSEPVPQTNAHESKEWYHASLTRAQAEHMLMRVPRDGAFLVRKRNEPN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SDASGQLFHGRAREGSF 1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SDISGKVKQALGLKGLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LAQATFPVKGLKTGYRAVPLKNNYSEDLELASLLIKIDIFPAKENGDLSPFSGTSLRERG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IGORTLAFSSMMPGYRHV----YLEGMEEASIFVHVAV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EIEVAGAEYDSTKOKTEFVVDNGLNPVWPAKPFHFQISNPEFAFLRFVVYEEDMFSDQNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EVEIIGLPVDCSREQTRVVDDNGFNPTW-EETLVFMVHMPEIALVRFLVWDHDPIG-RDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGYVLQPSTMRDEAFDPFDKSSLRGLEPCAISIEVLGARHLPK-----NGRG-IVCPFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATROKKTMKLSRALSDLVKYTKSVATHD--IEMEAASSWQVSSFSETKAHQILQQ-KPAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CQIAIRPEGKNNRLFVFSISMASVAHWSLDVAADSQEELQDWVKKIREVAQTADARLTEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VEKQEGGWWRGDYGGKKQLWFPSNYVEEMVNPVALEPEREHLDENSPLGDLLRGVLDVPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LEKIGTAEPDYGALYEGRNPGFYVEANPMPTFKCAVKALFDYKAQREDELTFIKSAIIQN
                                                                                                              Chem.
                                                                                                              268:21318-21327(1993)
                            TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                                                              Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                     a
                                                                                                                                                                     sequencing
                                                                                                                                                                                            .G.,
                                                                                                                                                                                                     Rhee
                                                                                                                                                                                                     ഗ
                                                                                                                                                                     s.c
                                                                                                                                                                        phospholipase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . . . . . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---EDPN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          beta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KSKAEED
                                                                                                                                                                                                                                                                                                                                                                    Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     843
                                                                                                                                                                           Ċ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          877
```

```
THE THE TENT TO SERVICE TH
           CONFLICT
CONFLICT
CONFLICT
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL;
                                                                                                                                                                                                                                                                                                                                               SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                              PRINTS; PR00390; PHPHLIPASEC ProDom; PD001202; PI_PLC_Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biochim. Biophys. Acta 1444:55-60(1999).

-i- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (1P3) IS MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE C ENZYMES. THIS FORM HAS A ROLE IN RETINA SIGNAL TRANSDUCTION.

-i- CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate +
                                                                                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                          /ARSPLIC
                                                                                                                                                           /ARSPLIC
                                                                                                                                                                                            CT
                                                                                                                                                                                                          ACT_SITE
                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                        MAIN
                                                                                                                                                                                                                                                         NIAMOC
                                                                                                                                                                                                                                                                    Alternative
                                                                                                                                                                                                                                                                                                       PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        or send
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entities
                                                                                                                                                                          /ARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kim M.J., Bahk Y.Y., Min D.S., Lee S.J., Ryu S.H., "Cloning of cDNA encoding rat phospholipase C-beta the phospholipase C.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cerebellum and eye."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Adamski F.M., Timms K.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=99132015; PubMed=9931434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 447-1175 FROM N.A.
                                                                                                                                                                                                                                                                                        ydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 amsk1 F.M., Timms K.M., Shieh B.H.;
unique isoform of phospholipase Cbeta4 highly expressed in
                                                                                                                                                                                         SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the Emburopean Bioinformatics Institute. There are no restably non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALTERNATIVE PRODUCTS: 3 ISOFORMS; A (SHOWN HERE), B AND C; ARE PRODUCED BY ALTERNATIVE SPLICING.
TISSUE SPECIFICITY: PREFERENTIALLY EXPRESSED IN THE RETINA.
SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN FOUR DIFFERENT FORMS
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              diacylglycerol.
COFACTOR: Calcium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AF031370; AAC98145.1; -. AF027571; AAC24984.1; -. P10688; IDJX.
                                                                                                                                                                                                                                                                                                                                                                                                                                PF00387; PI-PLC-Y; 1. PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        L15556; AAK13557.1;
U57836; AAD10403.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                PS50004; C2_DOMAIN_2; 1.
PS50007; PIPLC_x_DOMAIN;
PS50008; PIPLC_y_DOMAIN;
e; Lipid degradation; Tran
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   non-profit institutions as long and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IPR001192; PI_PLC.
IPR000909; PI_PLC_xd
IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biophys. Res. Commun.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IPR000008; C2.
                                                                                                                                          1013
1023
1154
                                                                                                                                                                                                                     splicing.
313 46
565 68
688 78
                                                                                                                                         786
328
375
1022
1175
1175
                                                                                                                                                                                                                                    463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        _Xdom.
          E D E O R L
                                                                                                                                                                                                   DOMAIN Y.
DOMAIN Y.
C2 DOMAIN
BY SIMILA
                                                                                                                                BY SIMILARITY.
BY SIMILARITY.
VKETVAQHTK -> GKQRDASPSG (IN ISOFORM B).
MISSING (IN ISOFORM B).
AKEMQQMVKLEAEMDRRPATVV -> LLKSCHAVSQTQGEG
                                                                                                                    DAADGEIGSRDGPQTSNSSMKLQNAN (IN ISOFORM
                                                                                                                                                                                                                                                                              Transducer; Phosphorylation; Calcium;
                         ' ' ' '
                                                                                          ť
                                                                                                                                                                                                                    DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (ISOFORM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                194:706-712(1993).
                         ⋛⋝⋿
           DE
                                    4 (IN REF. 2).
4 (IN REF. 2).
5 (IN REF. 2).
6 (IN REF. 2).
                          (IN REF
          (IN REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Suh P.G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   γď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               restrictions on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                new member of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   n no way
                                                                                                                                                                                                                                                                                                                                                                                                                                      у.
В
                  δõ
                                                   밁
                                                                                Š
                                                                                                               밁
                                                                                                                                              Qy
                                                                                                                                                                               밁
                                                                                                                                                                                                           Ω
                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밓
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 294;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CONFLICT
CONFLICT
                                                  645
                                                                                                                 585
          758 LRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQ--TRVVDDNGFNPTW-
                                                                                                                                                 640
                                                                                                                                                                                 556
                                                                                                                                                                                                                                                                                                                                          470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CONFLICT
                                                                                                                                                                                                                                                                                                           484
                                                                                                                                                                                                                                                                                                                                                                          424
                                                                                                                                                                                                                                                                                                                                                                                                        431
                                                                                                                                                                                                                                                                                                                                                                                                                                      364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18
                                         QMVSLNYQTPDLAMQLNQGKFEYNGSCGYLLKPDFMRRPDRTFDPFSETPVDGVIAATCS
                                                                                                                                                                                                                                                                                                                                                                  CEDLFGDLLLKQALESHPLEPGRLLPSPNDLKRKILIKNKRLKPEVEKKQLEALKSMMEA
                                                                                                                                                                                                                                                                                                                                                                                                                                GKGEDQEPIITHGKAMCTDILFKDVIQAIKETAFVTSEYPVILSFENHCSKYQQYQMSKY
                                                                       QMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQ--GVFNPNSEDPLPGQLKKQLV
                                                                                                       ERNIHYNMSSFNESVGLGYLKTHAIEFVNYNKRQMSRIYPKGGRVDSSNYMPQIFWNAGC
                                                                                                                                         EAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGC
                                                                                                                                                                                                      KGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEM--
                                                                                                                                                                                                                                                                      KESKIRDCEDPNNESYSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKK
                                                                                                                                                                                                                                                                                                    GESAAPASILEDDNEEEIESADQEEEAHPEYKFGNELSADDFSHKEAVANSVKKGLVTV-
                                                                                                                                                                                                                                                                                                                                                                                                   LTDILGD---KLDLSSVSSEDATTLPSPQMLKGKILVKGKKL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                               --GPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VFLDRLELYQEMDHPLAHYFISSSHNTYLTGRQFGGKSSVEMYRQVLLAGCRCVELDCWD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQAGGRCVEVDCWD
                                                                                                                                                                                                                                                                                                                                    -----PANISEDAEEGEVSDEDSADEIDDDCKL---LNGDASTNRKRVENTAKRKLDSLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RFLQVEQKMAGVT------LESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDI 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SFLNEHQRDPRLNEILFPFYDAKRAMQIIEMYEPDEELKKKGLISSDGFCRYLMSDENAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PSGKNDEIEPAAFT----YEKFYELTQKICPRTDIEDLFKKINGDKTDYLTVDQLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHK-DHLDAASLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -ANNVSPMTCLKKHWMKLAF---LTNTSGKIPVRSITRTFASGKTEKVIFQALKEL--GL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEDSLARRORTRDQWLKQTFDEADKNGDGSLSIGE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KILAALESVGKSENDLEGRILCVCSGTDLVNIGFTYMVAENPEITKQWVEGLRSIIHNFR 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QEGAVFDRYEEESFVFEPNCLFKVDEFGFFLTWKSEGKEGQVLECSLINSIRLAAIPKDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RQSEVFQRYPDGS--FDPNCCFSIYH-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   734
741
764
7764
7764
828
828
843
852
916
1024
11024
11043
11057
11067
11084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -GSHRESLD----------LVSTSSEVARTWVTGLRYLMAGIS 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ã,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 828
843
852
916
1024
1043
1057
1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  134496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    135;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WW.
                                                                                                                                                                                                                                        *------EDEQAWMASYKYV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 996.5;
Pred. No. 2.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PL≅DL∞±DL∞1
-GA----TTNIHPYLSTMINYAQPVKFQGFHVAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ٠'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ÿ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               * * * * * * * * * * * * * *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7379C6BB95B8FCED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  O <
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N H N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REF.
REF.
REF.
REF.
REF.
REF.
REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .8e-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----VLQLLHKLNVNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                265;
           Ė
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
```

581 555

542

483

469 423 363 372 303 243

191

122

ğ

δÃ 밁 Ş 밁

밁

```
RESULT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
01-JUL-1989 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphattdylinositol-4,5-bisphosphate phosphodiesterase gamma 1
(EC 3.1.4.11) (PLC-gamma-1) (Phospholipase C-gamma-1) (PLC-II)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein sequences and sequence homology to
oncogene products.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=88289733; PubMed=2840660;
Suh P.-G., Ryu S.H., Moon K.H., Suh H.W., Rhee S.G.;
"Inositol phospholipid-specific phospholipase C: complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P10686;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PIGL_RAT
                                                                 PIR;
                                                                                                                  or send an
                                                                                                                                                                                                                    This
                                                                                                                                                                                                                                                                                                                     +
                                                                                                                                                                                                                                                                                                                                   +
                                                                                                                                                                                                                                                                                                                                                                     -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (PLC-148).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     705
                                               EMBL; J03806; AAA41921.1;
PIR; A31317; A31317.
HSSP; P08487; 2PLD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              872
                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C. Natl. Acad. Sci. U.S.A. 85:5419-5423(1988).

EUNCTION: THE PRODUCTION OF THE SECOND MESSINGER MOLECULES
FUNCTION: THE PRODUCTION OF THE SECOND MESSINGER MOLECULES
DIACKLICIEC BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
C. ENZYMES.
CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-
bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate +
                                                                                                             s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way ifted and this statement is not removed. Usage by and for commercial ities requires a license agreement (See http://www.isb-sib.ch/announce/send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                 SIMILARITY: CONTAINS 2 SH2 DOMAINS.
SIMILARITY: CONTAINS 1 SH3 DOMAIN.
SIMILARITY: CONTAINS 1 EF-HAND CALCIUM-BINDING DOMAIN.
                                                                                                                                                                                                                                                                                                                                  SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                     SIMILARITY: CONTAINS
                                                                                                                                                                                                                                                                                                                                                                                                 PTM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2 INVOLVES THEIR PHOSPHORYLATION BY TYROSINE KINASES IN RESPONSE OLIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IMMUNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                    diacylglycerol.
COFACTOR: Calcium.
                                                                                                                                                                                                                                                                                                                                                                                      SYSTEM RECEPTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --IFVHVA----VSDISGKVKQALGLKGLFLR--------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VQVISGQ-----FLSDKK--IGTYVEVDMYGLPTDTIRKEFRTRMVMNNGLNPVYNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DSHAAGRPPARPSV---SQRILRRTASAPTKSQKPGRRGFPELV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PTIFCNIVLKTYVPDGFGDIVDALSDPKKFLSITEKRADQLRAMGIETSDIADVPSDTSK 871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ESFVERKVILPDLAVLRIAVYDDN---NKLIGQRILPLDGLQAGYRHISLRNEGNKPLSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ETLVF-MVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYL--EGMEEAS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NDKKGKANPAKANVTPQSSSELRPTTTAALGSGQEAKKGI-ELI 914
IPR000008; C2.
IPR002048; EF-hand.
IPR001849; PH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                     1 C2 DOMAIN.
2 PH DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1290
                                                                                                                                                                                                                                                                                                                       THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ase C: complete cDNA and tyrosine kinase-related
                                                                                                                                                                                                                                                                                                                       SECOND
                                                                                                                                                                                                                                                                                                                       ONE
                                                                                                                                                                                                                                                                                                                       \mathbf{s}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -GPKPGSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       870
                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                    Qy
                                                                                                                                                       В
                                                                                                                                                                                                                        В
                                                   Š
                                                                                       맑
                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00017; SH2; 2.
Pfam; PF00018; SH3; 1.
Pfam; PF00168; C2; 1.
Pfam; PF00169; PH; 2.
Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                        MOD_RES
MOD_RES
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR001192; PI_PLC.
InterPro; IPR001909; PI_PLC_Xdom.
InterPro; IPR001711; PI_PLC_Y.
InterPro; IPR001919; SH2.
InterPro; IPR001452; SH3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SMART; SM00148; PLCXC;
SMART; SM00149; PLCYC;
SMART; SM00252; SH2; 2
SMART; SM00326; SH3; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SMART; SM00239; C2;
SMART; SM00233; PH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS50002; SH3: 1.

PROSITE; PS50003; PH_DOMAIN; 2.

PROSITE; PS50004; C2_DOMAIN_2; 1.

PROSITE; PS50007; PIPLC_X_DOMAIN; 1.

PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProDom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProDom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CA_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProDom;
                                                                                                                                                         173
                                                                                                                                                                                                                                                         127 ESLDLVSTSSEVARTWVTGLRYLMAGISDEDSL-ARRQRTRDQWLKQTFDEADKNGDGSL 185
                      290
                                                      282
                                                                                         230
                                                                                                                       242
                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                         74 IRWRPSRKNEKAKISID--SIQEVSEGRQSEVFQRY-PDGSF--DPNCCFSIYHGS--HR 126
                                                                                                                                                         SAKDLKNMLSQVNYRVPNMR----FLRERLTDFEQRSGDITYGQFAQLYRSLMYSAQKTMD
                                                                                                                                                                                                                        KTLSLQATSEDEVNMWIKGLTWLM-----EDTLQAATPLQIERWLRKQFYSVDRNREDRI
                                                                                                                                                                                                                                                                                         ITW--SRGADKIEGSIDIREIKEIRPGKTSRDFDRYQEDPAFRPDQSHCFVILYGMEFRL 117
                      EPY - - -
                                                      EQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHV-HQDMTQPLSHYFITSSHNTY
                                                                                      LPFLETNTLRTGERPELCQVSLSEFQQFLLEYQGELWAVDRLQVQEFMLSFLRDPLREIE
                                                                                                                         LLML----TYSNHKDHLDAASLQRF-----
                                                                                                                                                                                       SIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQ--GTLGFEEFCAFYK--MMSTRRDLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PD000066; SH3; 1.
PD000093; SH2; 2.
PD001202; PI_PLC_Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PR00390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Calci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PR00452; SH3DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PR00401;
                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PS00018; EF_HAND;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               489
550
668
791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27 142 PH 1.
165 176 EF-HAND (POT 320 464 DOMAIN X.
                                                                                                                                                                                                                                                                                                                                                          Conservative 157; Mismatches
                     ----FFLDELVTFLFSKENSVWNSQLDAVCPETMNNPLSHYWISSSHNTY
                                                                                                                                                                                                                                                                                                                                                                                                                             A
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   degradation; Transducer; SH2 domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SH2DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PHPHLIPASEC.
                                                                                                                                                                                                                                                                                                                                                                                                                                           464
523
657
756
851
931
1070
1177
335
380
771
783
1253
                                                                                                                                                                                                                                                                                                                                                                          15.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                           148547 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                         C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
PHOSPHORYLATION (
PHOSPHORYLATION (
PHOSPHORYLATION (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PH 2 (FIRST PASH2 1.
SH2 2.
SH3.
PH 2 (SECOND 1
                                                                                                                                                                                                                                                                                                                                                                            Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                            Score 985; DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                             BB3240C27972CE3B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                            1.1e-40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PART).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PART).
                                                                                                                         ----LQVEQKMAGVTLESCQDII
                                                                                                                                                                                                                                                                                                                                                                                                                                             (BY SIMILARITY)
(BY SIMILARITY)
(BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                            Length 1290;
                                                                                                                                                                                                                                                                                                                                                              Indels 410;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SH3
                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                            241
                                                                                                                                                                                                                               172
                                                                                             289
                                                                                                                                                            229
```

36;

```
Eukaryota; Metazoa;
                                                01-MAR-1992 (Rel. 21, Created)
01-MAR-1992 (Rel. 21, Last sequence update)
15-TUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
(EC 3.1.4.11) (PLC-gamma-2) (Phospholipase C-gamma-2) (PLC
                         Rattus norvegicus (Rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RAT
                                                                                                                                                                                                                                               DQNFLAQATFPVKGLKTGYRAVPLKNNYSEDLELASLLIKIDI 1211
                                                                                                                                                                                                                                                                                -RDFIGQRTLAFSSMMPGYRHV-----YLEGMEEASIFVHVAV 877
                                                                                                                                                                                                                                                                                                                CPFVEIEVAGAEYDSTKQKTEFVVDNGLNPVWPAKPFHFQISNPEFAFLRFVVYEEDMFS 1168
                                                                                                                                                                                                                                                                                                                                                DPFVEVEIIGLPVDCSREQTRVVDDNGFNPTW-EETLVFMVHMPEIALVRFLVWDHDPIG 840
                                                                                                                                                                                                                                                                                                                                                                                 AGGHCGYVLQPSTMRDEAFDPFDKSSLRGLEPCVICIEVLGARHLPK-----NGRG-IV 1108
                                                                                                                                                                                                                                                                                                                                                                                                                 ANGGCGYYLKPGCMCQGYFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEII 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                   KGKKFLQYNRLQLSRIYPKGQRLDSSNYDPLPMWICGSQLVALNFQTPDKPMQMNQALFM 1055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QSRGATRQKKTMKLSRALSDLVKYTKSVATHD--IEMEAASSWQVSSFSETKAHQILQQ-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DVPACQIAIRPEGKNNRLFVFSISMPSVAQWSLDVAADSQEELQDWVKKIREVAQTADAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LTEGKMMERR-KKIALELSELVVYCRPVPFDEEKIGTERACYRDMSSFPETKAEKYVNKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IIQNVEKQDGGWWRGDYGGKKQLWFPSNYVEEMINPAILEPEREHLDENSPLGDLLRGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APDGSFLVRESETFVGDYTLSFWRNGKVQHCRIHSRQDAGTPKFFLTDNLVFDSLYDLIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NEEALEKIGTAEPDYGALYEGRNPGFYVEANPMPTFKCAVKALFDYKAQREDELTFTKSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EPNSYAIS-FRAEGKIKHCRVQQEGQTVMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HYQQVPLRCNEFEMRLSEPVPQTNAHESKEWYHASLTRAQAEHMLMRVPRDGAFLVRKRN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YYSEETSSDQGNEDEEEPKEASGSTELHSSEKWFHGKLGAGRDGRHIAERLLTEYCIETG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----KIRDC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KILIKHKKLAEGSAYEEVPTSVMYSENDISNSIKNGILYLEDPVNHEWYPHYFVLTSSKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KILVKGKKLPA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EHAFVASEYPVILSIEDHCSIAQQRNMAQHFRKVLGDTL-LTKPVDIAADGLPSPNQLKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         · EVSDEDSADEIDDDCKLLNGDASTNRKRV-----ENTAKRKLDS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----RNGRLVVGSFSRRKKKGSKLKKAASVEE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----AEED----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EDAGASR ----
                                                                                                                                                                STANDARD;
     Chordata; Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ------NISEDAEEG---------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----VESG----
                                                                                                                                                              PRT;
                                                                                                                                                            1265 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ·---- 53С
     Euteleostomi;
                                                    (PLC-IV).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---GDEGQDSPGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            48C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               400
InterPro; IPR00008; C2.
InterPro; IPR001849; PH.
InterPro; IPR001192; PL_PLC.
InterPro; IPR001909; PI_PLC_Xdom.
InterPro; IPR001711; PI_PLC_Y.
InterPro; IPR001801; SH3.
InterPro; IPR001452; SH3.
     PROSITE; PS50001; SH2; 2.
PROSITE; PS50002; SH3; 1.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50004; C2_DOMAIN, 2; 1.
PROSITE; PS50007; PIEC_X_DOMAIN.
                                                                                                    SMART;
                                                                                                                                                                                                                                                                                                                                             Pfam;
                                                                                                                                                                                                                                                                                                                                                                             Pfam;
                                                                                                                                     SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an or send as ilicense agreement.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; J05155; AAA418
PIR; A34163; A34163.
HSSP; P08487; 2PLD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (or send an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                                                                 Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hydrolyzing activity."
J. Biol. Chem. 264:218
-i- FUNCTION: THE PROD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Suzuki K., Takenawa T.;
"A second type of rat phosphoinosi containing a src-related sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=90094370; PubMed=2557343; Emori Y., Homma Y., Sorimachi H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Biol. Chem. 264:21885-21890(1989).

FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLGEYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS MEDIATED BY ACTIVATED PHOSPHATIDYLINGSITOL-SPECIFIC PHOSPHOLIPASE C ENZYMES. IT IS A CRUCIAL ENZYME IN TRANSMEMBRANE SIGNALING. CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)O = D-myo-inositol 1,4,5-trisphosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SYSTEM RECEPTORS.

SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.

SIMILARITY: CONTAINS 2 SH2 DOMAIN.

SIMILARITY: CONTAINS 2 SH2 DOMAINS.

SIMILARITY: CONTAINS 1 SH3 DOMAIN.
                                                                                                                                                                                                                                                                                                                                         ; PF00017; SH2; 2
; PF00018; SH3; 3
; PF00168; C2; 1
; PF00169; PH; 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - Buropean Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PTM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2 INVOLVES THEIR PHOSPHORYLATION BY TYROSINE KINASES IN RESPONSE TO LIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IMMUNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COFACTOR:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               diacylglycerol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   J05155; AAA41896.1;
                                                                                               SM00252; SH2; 2.
SM00326; SH3; 1.
                                                                                                                                 SM00148; PLCXc; 1.
SM00149; PLCYc; 1.
PS50008;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Calcium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phosphoinositide-specific ted sequence not essential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kawasaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (See http://www.isb-sib
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Η.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nakanishi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phospholipase
for phosphoine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phosphoinositide-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rictions on its
is in no way
if for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
```

PIG2_RAT RESULT

IG2 10 DЬ Š В δÃ 밁

1169 841

밁 Qy

056

722 996

109

Qy 밁 δÃ 밁 Ş ₽ ρ

> 937 605 877 567 817 560

δÃ 밁

757 552 869

δÃ Вþ

В Qγ Ъ δÃ DЬ Qγ 밁 δÃ В Qy В δÃ

638

530 578 520

481 458 461 399 401 339 341

```
STATET
                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                            Qy
                                                                                                                                                                             밁
                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                         밁
                                                        밁
                                                                                   Ş
                                                                                                                   밁
                         Š
片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      237
                                                                                                                                                                                                                                                                                                                                                                458
                                                                                                                                                                                                                                                                                                                                                                                                                                                     409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   74 IRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSH--RESLDL
813 TRIQQYFPSNYVEDISAGDAEEMEKQIIEDNPLGSLCRGILDLNTYNVVKAPQGKNQKAF 872
                                                          753 YDVSRMYVDPSEINPSMPQRTVKALYDYKAKRSDELTFCRGALIHNVSKEPGGWWKGDYG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVH-QDMTQPLSHYFITSSHNTYLVGDQLMS 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATDSKEDAVKWLSGLKIL----HQEAMNASTPTMIESWLRKQIYSVDQTRRNSISLRELK 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGEVL 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VAWSKTADKIEGFLDIMEIKEIRPGKNSKDFERAKAVRHKADCCFTIFYGTQFVLSTLSL 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RRDLYLLMLTYSNHKDHLDAASL-----QRF-LQVEQKMAGVTLESCQDIIEQF-EPCPE 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TILPLYNFKVSGIKFLKDKLVEIGAQKD-----ELSFEQFHLFYKKLMFEQQKSILDEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QLLHKLN-----VNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMM-----ST
                                                                                                                                                                                                                                                                                                                                                                                                                                                  YPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKK 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ESSTEAVIRCLRAGCRCIELDCWDGPDGKPIIYHGWTRTTKIKFDDVVQAIRDHAFVTSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNE 408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KKDSSVFIL---GNTDRPDASAVYLQDFQRFLLHEQQELWAQDLNKVRERMTKFIDDTMR
                                                                                                                    CRINRDGRHFVLGTSAYFESLVELVSYYEKHALYRKMRLRYPVTPELLERYNMERDINSL
                                                                                                                                                                                 DPVPNPNPHESKPWYYDRLSRGEAEDMLMRIPRDGAFLIRKREGTDSYAITFRARGKVKH
                                                                                                                                                                                                                                                                         SVSTLSPSGKL-----
                                                                                                                                                                                                                                                                                                                                                             LGPRGDVDVNVEDKKDEHKTQGELYMWDSIDQKWTRHYCAIADAKLSFSDDIEQTVEEDP
                                                                                                                                                                                                                                                                                                                                                                                                                         FPVILSIEEHCSVEQQRHMAKVFKEVLGDLL-LTKPTEASADQLPSPSQLREKIIIKHKK 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ETAEPFLFVDEFLTYLFSRENSIWDEKYDAVDMQDMNNPLSHYWISSSHNTYLTGDQLRS
                                                                                                                                                   --SRRNGR-LVVGS------
                                                                                                                                                                                                                                         TLS-FWRSGRVQHCRIRSTMEGGVMKYYLTDNLTFNSIYALIQHYREAHLRCAEFELRLT
                                                                                                                                                                                                                                                                                                    VQDTPPTELHFGEKWPHKKVESRTSAEKLLQEYCAETGAKDGTFLVRESE----TFPNDY 573
                                                                                                                                                                                                                                                                                                                                -----CKLLNGDASTNRKRVENTAKRKL-------DSLIKESKIRDCEDPNNF 535
                                                                                                                                                                                                                                                                                                                                                                                         L-----PANISEDAEE----GEVSDEDSADE-----IDDD-
                              -----QDSP-GGQSRGA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Calcium-binding; Phosphorylation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15.2%;
Similarity 25.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lipid degradation; Transducer; SH2 domain; SH3 domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
312
532
646
769
930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                               -----ESGEDAGA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             147734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 175; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN Y.
C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 968.5; DB 1; Pred. No. 7.1e-40;
                                                                                          ---FSRRKKKGSKL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SH2 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2C34910D43572723 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7.1e-40;
hes 301;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels 393;
                                                                                           -KKAASVEEGDEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  236
                                                                                                                                                                                                                                              632
                                                                                                                                                                                                                                                                                                                                                                                              494
                                                                                                                                                                                    692
                                                                                                                                                                                                                                                                                                                                                                  517
                                                                                                                           752
                                                                                                                                                                                                                  564
                                                               812
                                                                                                                                                       575
                                 609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     36;
```

```
δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PIG2_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase gamma
(EC 3.1.4.11) (PLC-gamma-2) (Phospholipase C-gamma-2) (PLC-IV).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1161 GFRSVPLKNGYSEDIELASLLV 1182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Lymphoblast;
MEDLINE-89078616; PubMed-2849563;
Ohta S., Matsui A., Nazawa Y., Kagawa Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P16885;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human lymphocytes.";
FEBS Lett. 242:31-35(1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             873 VFILEPKKQGDPPVEFATDRVEELFEWFQSIREITWKIDTKENNMKYWERNQSIAIELSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Complete cDNA encoding a putative phospholipase C from transformed
                                                          the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in
                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation.
                                                                                                                                                       SYSTEM RECEPTORS.

SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.

SIMILARITY: CONTAINS 1 PH DOMAIN.

SIMILARITY: CONTAINS 1 PH DOMAINS.

SIMILARITY: CONTAINS 1 SH3 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (173) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
C ENZYMES. IT IS A CRUCIAL ENZYME IN TRANSMEMBRANE SIGNALING.
CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-
bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate +
                                                                                                                                                                                                                                                                                              PTM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2 INVOLVES THEIR PHOSPHORYLATION BY TYROSINE KINASES IN RESPONSE TO LIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IMMUNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EDPLPGQLKKQ----LVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQ 800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GYRHV----YLEGMEEASIFV 873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTVVNDNGLSPVWAPTQEKVTFEIYDPNLAFLRFLYYEEDMFSDPNFLAHATYPIKGIKS 1160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YDPMPPESQRKILMTLTVKVLGARHLPK-----LG--RSIACPFVEVEICGAEYDSNKFK 1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVVYCKPTSKTKDHLENPDFREIRSFVETKADSIVRQKPVDLLRYNQKGLTRVYPKGQRV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRV
                                                                                                                                                                                                                                                                                                                                                          COFACTOR:
                                                                                                                                                                                                                                                                                                                                                                           diacylglycerol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRYVDDNGFNPTW----EETLVFMVHMPEIALVRFLVWDHDPIG-RDFIGQRTLAFSSMMP 856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DSSNYDPFRLWLCGSQMVALNFQTPDKYMQMNHALFSLNGRTGYVLQPESM-----RSEK 1047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNS
                                                                                                                                                                                                                                                                                                                                                          Calcium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----KKTMKLSRALSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1252 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   932
```

use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.lsb-sib.ch/announce/or send an email to license@isb-sib.ch).

```
Ş
                                               Вþ
                                                                      Qy
                                                                                                 뫄
                                                                                                                        Ş
                                                                                                                                                     밁
                                                                                                                                                                            Qy
                                                                                                                                                                                                       В
                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                              SMART; SM00252; SH2; 2.

SMART; SM00252; SH3; 1.

SMART; SM00326; SH3; 1.

PROSITE; PS50001; SH2; 2.

PROSITE; PS50002; SH3; 1.

PROSITE; PS50004; C2_DOMAIN; 1.

PROSITE; PS50004; C2_DOMAIN; 1.

PROSITE; PS50008; PIPIC_X_DOMAIN; 1.

PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPRO01849; PH. L.
InterPro; IPRO01992; PI_PLC. xdom.
InterPro; IPRO01999; PI_PLC_xdom.
InterPro; IPRO01711; PI_PLC_x.
InterPro; IPRO01711; PI_PLC_x.
InterPro; IPRO01452; SH3.
Pfam; PF000171; SH2; 2.
Pfam; PF00018; SH3; 1.
Pfam; PF00018; SH3; 1.
Pfam; PF00018; C2; 1.
Pfam; PF00189; PH; 2.
Pfam; PF00189; PH; 2.
Pfam; PF00189; PH; 2.
Pfam; PF00189; PH; 2.
                                                                                                                                                                                                                                                                                                          ACT_SITE
ACT_SITE
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRINTS; PR00401; SH2DOMAIN.
PRINTS; PR00452; SH3DOMAIN.
ProDom; PD000066; SH3; 1;
ProDom; PD000093; SH2; 2.
ProDom; PD001202; PI_PLC_Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                Repeat; Calcium-binding; Phosphorylation, DOMAIN 20 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SMART;
                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                     132 VSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGEVL 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hydrolase;
                                                                                                  168
                                                                                                                                                     112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR00390;
                                                                                                                                                                                              52 VAWSKTADKIEGFLDIMEIKEIRPGKNSKDFERAKAVRQKEDCCFTILYGTQFVLSTLSL 111
                                                                                                                                                                                                                       74 IRWRPSRKNEKAKISIDSTQEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSH--RESLDL 131
           QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVH-QDMTQPLSHYFITSSHNTYL
                                     SVFIL---GNTDRPDASAVYLHDFQRFLIHEQQEHWAQDLNKVRERMTKFIDDTMRETAE
                                                              YLLMLTYSNHKDHLDAASL----QRFL-----QVEQKMAGVTLESCQDIIE
                                                                                       TILPLINFKYSSAKFLKDKFYEIGA--HKDELSFEQFHLFYKKLMFEQQKSILDEFKKDS
                                                                                                                QLLHKLNVNLPRQR-VKQMFREADTDDHQGTLGFEEFCAFYKMM-----STRRDL 240
                                                                                                                                            AADSKEDAVNWLSGLKIL----HQEAMNASTPTIIESWLRKQIYSVDQTRRNSISLRELK 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; X14034; CAA32194.1;
; M37238; AAA60112.1;
S02004; S02004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600220;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SM00239; C2; 1.
SM00233; PH; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SM00148; PLCXc; 1.
SM00149; PLCYc; 1.
                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HGNC: 9066; PLCG2
                                                                                                                                                                                                                                                                                                                                                                                                                                               Lipid degradation; Transducer; SH2 domain; SH3 domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IPR000008; C2.
                                                                                                                                                                                                                                                    Conservative 164; Mismatches 310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2PLD
                                                                                                                                                                                                                                                                                                           AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; PHPHLIPASEC.
; SH2DOMAIN.
; SH3DOMAIN.
                                                                                                                                                                                                                                                                                                    44 DOMAIN Y.
52 C2 DOMAIN.
27 BY SIMILARITY.
72 BY SIMILARITY.
146119 MW; 6F63F051621EEB64 CRC64;
                                                                                                                                                                                                                                                                  14.9%; Score 950.5;
25.1%; Pred. No. 5.2
                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN X.
SH2 1.
    <del>::</del>
::
                                                                                                                                                                                                                                                                   5.2e-39;
                                                                                                                                                                                                                                                                           DB 1; Length 1252;
                                                                                                                                                                                                                                                    Indels 399;
Gaps
                                      282
                                                                                                                                                                                                                                                  34;
```

```
AC DT DT DT DE DE DE
                                                                                                                                                                                                                                                                                                    Д
                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                          PIP1_DROME
                                                                                                                                                                            RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
PIPI_DROME STANDARD; PRT; 1312 AA.

P25455; O9VPN9;
01-MAY-1992 (Rel. 22, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase classes I and II (EC 3.1.4.11) (Phosphoinositide-specific phospholipase C).

PLC21C OR PLC-21 OR CG4574.
                                                                                                                                                                                                                               1158
                                                                                                                                                                                                                                                                                                                                                                        1045
                                                                                                                                                                                                                                                         854 MMPGYRHV----YLEGMEEASIFV 873
                                                                                                                                                                                                                                                                                                                                                                                                                                  990 QRVDSSNYDDFRLWLCGSQMVALNFQTADKYMQMNHALFSLNGRTGYVLQPESM-----R 1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                           682 YRVDSSNYNPOPFWNAGCOMVALNYOSEGRWLOLNRAKFSANGGCGYVLKPGCWCQGVFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       870
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            631 LTDPVPNPNPHESKPWYYDSLSRGEAEDMLMRIPRDGAFLIRKREGSDSYAI-TFRARGK 689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 571 NDYTLSFWRSGRVQHCRIRSTMEGGTLKYYLTDNLRFRRMYALIQHYRETHLPCAEFELR 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            451 IIIKHKKLGPRGDVDVNMEDKKDEHKQQGELYMWDSIDQKWTRHYCAIADAKLSFSDDIE 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  392 HAFVTSSFPVILSIEEHCSVEQQRHMAKAFKEVFGDLL-LTKPTEASADQLPSPSQLREK 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        402 YAFIKNEYPVILSIENHCSVIQQKKMAQYLTDIIGDKLDLSSVSSEDATTLPSPQMLKGK 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       342 VGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINK 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      283
                                                                                                                                                                                                                                                                                                                         REQTRYVDDNGFNPTW----EETLVFMVHMPEIALVRFLVWDHDPIG-RDFIGQRTLAFSS
                                                                                                                                                                                                                                                                                                                                                             TEKYDPMPPESQRKILMTLTVKVLGARHLPK-----LG--RSIACPFVEVEICGAEYGNN
                                                                                                                                                                                                                         VKSGFRSVPLKNGYSEDIELASLLV 1182
                                                                                                                                                                                                                                                                                         KFKTTVVNDNGLSPIWAPTQEKVTFEIYDPNLAFLRFVVYEEDMFSDPNFLAHATYPIKA
                                                                                                                                                                                                                                                                                                                                                                                 PNSEDPLPGQLKKQ----LVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCS 797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LSDLVVYCKPTSKTKDNLENPDFREIRSFVETKADSIIRQKPVDLLKYNQKGLTRVYPKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KSFVFILEPKEQGDPPVEFATDRVEELFEWFQSIREITWKIDSKENNMKYWEKNQSIAIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----KTMKLSRA 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DYGTRIQQYFPSNYVEDISTADFEELEKQIIEDNPLGSLCRGILDLNTYNVVKAPQGKNQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NSLYDVSRMYVDPSEINPSMPQRTVKALYDYKAKRSDELSFCRGALIHNVSKEPGGWWKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VKHCRINRDGRHFVLGTSAYFESLVELVSYYEKHSLYRKMRLRYPVTPELLERYNTERDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ESGEDAG-----ASRRN----GRLVVGSFSRRKKKGSKL------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QTMEEEVPQDIPPTELHFGEKWFHKKVEKRTSAEKLLQEYCMETGGKDGTFLVRESETFP 570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ILVKGKKL-----PANI----SEDAEEGEVSDEDSADE-----IDDD-- 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PF------LFVDEFLTYLFSRENSIWDEKYDAVDMQDMNNPLSHYWISSSHNTYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -CKLLNGDASTNRKRVENTAKRKL------DSLIKESK--- 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----QDSP-GGQSRG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----IRDCEDPNNFSVSTLSPSGK 545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -KKAASVEEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         391
```

0n

9

```
RA Harris N.L., Harvey D., Heinman T.J., Wei M.-H., Houck J.,
RA Harris N.L., Harvey D., Heinman T.J., Wei M.-H., Hoeyman C.,
RA Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
RA Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Liu X., Mattel B., McIntosh T.C., McLeod M.P., McPherson D.,
RA Liu X., Mattel B., McIntosh T.C., McLeod M.P., McPherson D.R.,
RA McIntoy G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA McHson D.R., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Melson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Rainert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Rincert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Syier E., Spradling A.C., Stapleton M., Skupski M.P., Smith T.,
RA Syier E., Spradling A.C., Stapleton M., Skupski M.P., Smith T.,
RA Syier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
RA Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
RA Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
RA Science 287:2185-2195(2000).
RT Science 287:2185-2195(2000).
RT Science 287:2185-2195(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RA Adams M.D. (Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D., Adams M.D., Celniker S.E., Li P.W., Hoskins R.A., Galle R.F., RA Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F., RA Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F., RA Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F., RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N., RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N., RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D., RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Nelson C.R., Miklos G.L.G., RA Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G., RA Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G., RA Horli J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D. RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M., RA Borkova D., Botchan M.R., Bouck J., Bayraktaroglu L., Beasley E.M., RA Borkova D., Botchan M.R., Bouck J., Bayraktaroglu L., Beasley E.M., Borkova D., Botchan M.R., Bouck J., Cadieu E., Center A., Chandra I., RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davles P., Conter A., Chandra I., Bodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P., RA Dodson K., Evangelista C.C., Ferriera S., Fleischmann W., RA Borkova N.C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K., RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guann P., Harriss M., Harriss N., H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Mandibulata; Pancrustacea; Hexapoda;
Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
NCBI_TaxID-7227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=20196006; PubMed=10731132;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nervous system
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Perdew M.H., Pak W.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Shortridge R.D., Yoon J., Lending C.R., Bloomquist B.T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=91286274; PubMed=2061323;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A. (CLASS II ISOFORM).
This SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                   -!- SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biol. Chem. 266:12474-12480(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drosophila phospholipase C gene that is expressed in the central
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (1P3) IS MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                  SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.
TISSUE SPECIFICITY: NEURONAL CELL BODIES OF THE OPTIC LOBE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALTERNATIVE PRODUCTS: 2 ISOFORMS; CLASS I AND CLASS II (SHOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   bisphosphate + H(2)0 = D-myo-inositol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C ENZYMES
                                                                                                                                                                                                                                                                                                                                                                                              AL BRAIN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHARACTERIZATION, AND ALTERNATIVE SPLICING
                                                                                                                                                                                                                                                                                                                                                                                                     AND THORACIC GANGLIA IN ADULTS, AND THE BRAIN OF
```

Swiss Institute of Bioinformatics

EMBL outstation

```
Ş
                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                          S
V
                                                                                                                                                                                                                                                                      Š
                                                                                                                                                Ş
                                                                                                                                                                                밁
밁
                           20
                                                          멍
                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PP00118; C2; 1.

Pfam; PF00387; PI-PLC-Y; 1.

Pfam; PF00388; PI-PLC-Y; 1.

PRINTS; PR00390; PHPHLIPASEC.

PRODOM; PD001202; PI_PLC_Y; 1.

SMART; SM00239; C2: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the European Bioinformatics Institute. There are no restrictions by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for con entitles requires a license agreement (See http://www.isb-sib.ch/anor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; M60452; AAA28819.1; -. EMBL; M60453; AAA28820.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VARSPLIC CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FlyBase; FBgn0004611; Plc21C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PIR; B40879; B40879.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                            178
                                                                                                                       290
                                                                                                                                                                                230
                                                                                                                                                                                                             244 M--LTYSNHKDHLDAASLQRFLQVEQK-----MAGVTLESCQDIIEQFEPCPENKSK
                                                                                                                                                                                                                                                                       196 K-----LNV-NLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDLYLL
                                                                                                                                                                                                                                                                                                      126
                                                                                                                                                                                                                                                                                                                                  140 RTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFD----EADKNGDGSLSIGEVLQLLH
                                                                                                                                                                                                                                                                                                                                                                67
                                                                                                                                                                                                                                                                                                                                                                                               92
                                                                                                                                                                                                                                                                                                                                                                                                                           19
                                                                                                                                                                                                                                                                                                                                                                                                                                                      44 AMQEGMQMVK------LRGGSKGLVRFYYLDEHRSCIRWRPSRKNEKAKISIDS 91
                                                                                                                                                                                                                                                                                                    QLWTDGL-----IKLAYSLAQLNGSAIMFLQKAHTKLCLQVDKS--GRIPVKNIIKLFA 177
                                                                                                                                                                                                                                                                                                                                                                                                                           ALQDGEKFIRWDDDSGTGTPVTMRVDAKGFF-LYWVDQN------NELDILDIAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AE003589;
                                                                                                                                                                              FDSIVGNSKRKCMSIAQLVEFLNKTQRDPRLNEILYPYANPARAKELIQQYEPNKFNAQK
                                                                                                                                                                                                                                           QNKEDRKRVEKALDVTGLPSGKVDSI-----SVSKFQFEDFYNLYKYLTQRSEVERL
                                                                                                                                                                                                                                                                                                                                                               IRDVRTGQYAKRPKDNKLRQIVTLGPQDTLEEK-TVTVCHGSDFVNMTFVNFCCTRRDIA 125
                                                                                                                                                                                                                                                                                                                                                                                           IQEVSEGRQS-----EVFQRYPDGSFDPNCCFSIYHGSHRESLDLVS---TSSEVA 139
SFENHCNPRQQAKIANYCREIFGDMLLDKPLDSHPLEPNMDLPPPAMLRRKIIIKNKKKH
                                                                                       MYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVIL 413
                                                                                                                     GQLSLDGFLRYLMGDDNPIMAPSKLDLCDDMDQPMSHYFINSSHNTYLTGHQLTGKSSVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P10688;
                              SIENHCSVIQQKKMAQYLTDILGDKL---DLSSVSSEDATTLPSPQMLKGKILVKGK---
                                                          IYRQCLLAGCRCVELDFWNGRTEEPVIVHGYTFVPEIFAKDVLEAIAESAFKTSEYPVIL
                                                                                                                                                  GLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SM00239; C2; 1.
SM00148; PLCXC; 1.
SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IPR000909; PI_PLC_Xdom. IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IPR001192; PI_PLC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lipid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAF51507.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     degradation; Transducer; Alternative splicing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  145717 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        190; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 945.5; DB 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C2 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MISSING (IN ISOFORM CLASS-I).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B8DD0EF5A48C2665 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        434; Indels 335;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1312;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                  66
                                                                                                                                                                                                                    293
                                                                                                                                                                                                                                                                              243
                                                                  409
                                                                                                                                                                                      289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           42;
```

```
ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              γ
                                                                                                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    рЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                        01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 1
(EC 3.1.4.11) (PLC-beta-1) (Phospholipase C-beta-1) (PLC-I) (PLC-154).
SEQUENCE FROM N.A.
                                                        Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                      CBI_TaxID=10116;
                                                                                                Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                        134 AQKLEEIRSK--SPMFSAGKPLL 1154
                                                                                                                                                                                                                                                                    IB1_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             708 LLKPEFMRRSDRRLDPFAESTVDGIIAGTVSITVLSGQFLTDKR------ANTFVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             648 YNKHQLSRYYPAGTREDSSNFMPQLFWNAGCQLVALNFQTLDLAMQLNLGIFEYNARSGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    729 VLKPGCMCQG--VFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            470 HHHHHHHKKPAQVGTPAANNKLTTANSVD-------
                                                                                                                                                                                                                                                                                                                                                                   TSQYRELQEKYHEAIYSAAEKVL 1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APKGPGAWROGPGGSGSMSSDSSSPDSPGIPERSPRWPE----GACRQPGALQGEMSALF 1133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEKIKIAGQKSSPLEGKKP-----KFAITNKLVKRLSNKSLNC--LSPHSEPG--VE 1068
                                                                                                                                                                                                                                                                                                                                                                                                                                        IPACP--LDLGDSSEESAAADAGEDLAGGSSSLDGRTQESRLRSACRE------Y 1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QHQHSLDQSVSTSIRQVESSQFDVDLVLAEPLEKILDHKSVKEKRLEMEKKLESLRKKHD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----CAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLGAPCCGLDPHAIPGRSRE 1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----ATCMKCVVGS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DLSKSCGQKKELRPVESLAT-SPKHRPSISAAAAMSVDVTVDRTDGGRGEDSISIVAPSI 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VVPPGPGPAPEAPAQEGPGSGSPRGKAPAAVAEKSPVRVRPPRVLDGPGPAGMA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADD 958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LIGHRVLPVIGLCPGYRHV--------NLRSEVGQPIALASLFLCVVVKDY 857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FIGORTLAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFL----RGP 898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VEIIGLPVDCSRE--QTRVVDDNGFNPTW-EETLVF-MVHMPEIALVRFLVWDHDPIGRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VPDDLSNFA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VDMYGLPADTVRKKFRTKTVRDNGMNPLYDEEPFVFKKVVLPELASIRIAAYEE---GGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FNQQQLSRTYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QKETEAGAEISALVNYVQPI--HFSSFENAEKKNRCYEMSSFDEKQATTLLKERPIEFVN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KKTMKLSRALSDLVKYTKSVATHDIEMEAASS----WQVSSFSETKAHQILQQKPAQYLR 668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGTGSAAGTAGHAPPLQQIRQSSKDSTGSSDSDSSSEDESLPNTTPNLPSGNEPPPEKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GS-----DEGODSPGGOSRGATRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDV---ESGEDAGASR--RNGRLVV 573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----KLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLD 518
                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----EALANPIKYQSELEKRDIQLSVLTDEAEALGSADE 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ------AKAAQQVGLSASHEDGGVTRSTANGDVAT 529
                                                 Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                              1216 AA.
                                                   Murinae; Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             707
```

밁 QΥ 밁

```
Query Match
                                                                           Matches
                                                                                           Best
                                                                                                                                                       ACT_SITE
MOD_RES
                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                 PROSITE; PS50004; C2_DUMAIN; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                            SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                          PRINTS; PR00390; PHPHLIPASEC. ProDom; PD001202; PI_PLC_Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its most by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                      ACT_SITE
                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00388; PI-PLC-Y; 1. Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00168;
                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; M20636; AAA41885.1; -. PIR; A28821; A28821.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HSSP; P10688; 1DJX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIATED BY TWO G-PROTEIN ALPHA SUBUNITS, ALPHA-Q AND ALPHA-11.
-!- SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
-!- SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=88270495; PubMed=3390863;
Suh P.-G., Ryu S.H., Moon K.H., Suh H.W., Rhee S.G.;
"Cloning and sequence of multiple forms of phospholipase C.";
                                44 AMQEGMQMVK-----CIRWRP 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACTIVITY, TISSUE SPECIFICITY, AND SUBCELLULAR LOCATION.
MEDLINE=93203266; PubMed=8454637;
Jhon D.-Y., Lee H.-H., Park D., Lee C.-W., Lee K.-H., Yoo O.J.,
21 SLKKGTKFVKWDDDSTIVTPIILRTDPQGFF-FYWTDQNKETELLDLSLVKDARCGKHAK 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Cloning, sequencing, purification, and Gq-dependent activation of phospholipase C-beta 3.";
                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTIVITY,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cell 54:161-169(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MISCELLANEOUS: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-BETA 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE SPECIFICITY: Highest expression in brain. Also expressed parotid gland, liver, uterus, lung, heart, adrenal gland and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBCELLULAR LOCATION: Cytosolic and particulate fractions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C ENZYMES.
CATALYTIC ACTIVITY: 1-phosphatidy1-ID-myo-inositol 4,5-
bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biol. Chem. 268:6654-bbb1(193).

FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ovary. Not detected in spleen, pancreas, intestine,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COFACTOR: Calcium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .G.;
                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                      ; IPR000008; C2.
; IPR001192; PI_PLC.
; IPR000909; PI_PLC_Xdo
; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                        Conservative
                                                                                                                                       AA;
                                                                                                                                                                                                                                               degradation;
                                                                                      14.8%;
                                                                                                                                   138344 MW;
                                                                     153;
                                                                                                                                                                  C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        _Xdom.
                                                                                  Score 945; DB 1;
Pred. No. 9.4e-39;
                                                                                                                              PHOSPHORYLATION (BY PKC). W; 92F23691781F788E CRC64;
                                                                                                                                                                                                                 DOMAIN Y.
                                                                                                                                                                                                                                DOMAIN X.
                                                                                                                                                                                                                                          Transducer; Phosphorylation; Calcium
                                                                   Mismatches
                                                                                                 Length 1216;
                                                              Indels 274; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SI
                                                                38;
```

밁

Ş 밁 Š

Ş 망

Š 당

```
δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                           밁
                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                   닭
                                                                                                                       Š
                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              199 V----NLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRR-------DLYLLM 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          336 TACQLAGNSSVEMYRQVLLSGCRCVELDCWKGRTAEEEPVITHGFTMTTEISFKEVIEAI 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481 KLS-----EQASNTYSDSSSVFEPSSPGAGEADTESDDDDDDDD------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                456 MDLMYKILVKNKK------KSHKSSEGSGKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 79
872
                                        964 PGPAPEAP-AQEGPGSGSPRGKAPA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AKEWTNEV----FSLATNLLAQNMSRDAFLEKAYTKL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APKDPKLRELLD-----VGNIGHLEQRMITVVYGPD----LVNISH---LNLVAFQEEV 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEV 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKR 515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NKYAFIKNEYPVILSIENHC-SVIQQKKMAQYLTDILGDKL---DLSSVSSEDATTLPSP 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VTPEGRIPLKNIYRLF-SADRKRVETAL---EACS---LPSSRNDSIPQEDFTPDVYRVF 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ARTWYTGLRYLMAGISDEDSLARRORTRDQWLKQTFDEADKNGDGSLSIGEYLQLLHKLN 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AECAFKTSPFPILLSFENHVDSPKQQAKMAEYCRLIFGDALLMEPLEKYPLESGVPLPSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDG--PDGEPIVHHGYTLTSKILFKDVIETI 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EKYEPNSSLAKKGQMSVDGFMRYLSGEENGVVSPEKLDLNEDMSQPLSHYFINSSHNTYL 335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYL 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LNNLCPRPEIDNIFSEFGAKSKPYLTVDQMMDFINLKQRDPRLNEILYPPLKQEQVQVLI 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LTYSNHKDHLD-----AASLQRFLQVEQKMAGVTL------
                                                                                                                                                                                                                                                                                                            NPTW-EETLVF-MVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEGME
                                                                                                                                                                                                                                                                                                                                                         VANTLSVKIISGQ------FLSDKK--VGTYVEVDMFGLPVDTRRKAFKTKTSQGNAV 723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DIE--MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQP 693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATH 635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGS 575
                                                                                                                                                                                                                                                                                                                                                                                                    LKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSRE--QTRVVDDNGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                  FWNAGCQMVALNFQTVDLAMQINMGMYEYNGKSGYRLKPEFMRRPDKHFDPFTEGIVDGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQ--GVFNPNSEDPLPGQ 751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SFETSKKRNKSFEMSSFVETKGLEQLTKSPVEFVEYNKMQLSRIYPKGTRVDSSNYMPQL
                                                                                                                              DSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVVPPG 963
                                                                                                                                                                                                                                                                    NPVWEEEPIVFKKVVLPSLACLRIAAYEE----GGKFIGHRILPVQAIRPGYHYICLRNER 780
                                                                                                                                                                              NQPLMLPAVFVYIEVKDYVPDTYADVIEALSNPIRYVNLMEQRAKQLAALTLED-----
                                                                                                                                                                                                                      E----ASIFVHVAVSD-----ISGKVK-----QALGLKGLFLRGPKPGSL 903
PKPPSQAPHSQPAPGS----VKAPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----CKKSSMDEGTAGSEAM-----ATEE-----MSNLVNYIQPVKFE 553
                                                                                        ----EEEVKKEADPGETSSEAPSE----
                                                                                               TRTTPAENGVNHTATLA 871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---ESCQDII 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---KLQ 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
```

PIB4_BOVIN ID PIB4_BOVIN RESULT 14

STANDARD;

PRT;

1023 AA.

```
THE THE TRANSPORT OF THE PROPERTY OF THE PROPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            007722; 007721; 007723; 007724;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-UNN-2002 (Rel. 41, Last annotation update)
1-phosphattdylinositol-4,5-bisphosphate phosphodiesterase beta 4
(EC 3.1.4.11) (PLC-beta-4) (Phospholipase C-beta-4) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE-93317620; PubMed-8327481;
Ferreira P.A., Shortridge R.D., Pak W.L.;
"Distinctive subtypes of bovine phospholipase C that have preferential expression in the retina and high homology to the norpA gene product of Drosophila.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Proc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00388; PI-PLC-Y; 1. Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR001192; PI_PLC.xd
InterPro; IPR000909; PI_PLC_xd
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; L13936;
ACT_SITE
ACT_SITE
VARSPLIC
                                                                                                                                                                                                                                                                                                                                          SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR00390; PHPHLIPASEC. ProDom; PD001202; PI_PLC_Y; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF00168; C2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL;
                                                                                                                                                                                                                                                         PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN;
PROSITE; PS50008; PIPLC_Y_DOMAIN;
                                                                                                                                                                                                    Alternative
                                                                                                                                                                                                                            Hydrolase; Lipid degradation;
                                                                                                                                                                                                                                                      PROSITE; PS50008;
                                                                                   DOMAIN
                                                                                                                    DOMAIN
                                                                                                                                                                         NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISHOSPHATE (IP3) IS MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE C ENZYMES, THIS FORM HAS A ROLE IN RETINA SIGNAL TRANSDUCTION. CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-trisphosphate + H(2)0 - D-myo-inositol 1,4,5-trisphosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALTERNATIVE PRODUCTS: AT LEAST 4 ISOFORMS; 1A, 1B (SHOWN HERE), 2A AND 2B; ARE PRODUCED BY ALTERNATIVE SPLICING.

AND 2B; ARE PRODUCED BY ALTERNATIVE SPLICING.

TISSUE SPECIFICITY: PREFERENTIALLY EXPRESSED IN THE RETINA.

SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN FOUR DIFFERENT FORMS
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COFACTOR: Calcium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         diacylglycerol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 L13938;
P10688;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 L13937;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    L13935;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bovinae; Bos.
                                                                                                                                                                                                 splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAA30699.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAA30701.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAA30700.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAC37304.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Xdom.
        C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
MISSING (IN ISO
                                                                                      DOMAIN Y.
C2 DOMAIN
                                                                                                                                                                                                                                  Transducer; Phosphorylation; Calcium;
           (IN ISOFORM 2A AND ISOFORM 2B)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2A
```

LA C

```
Query Match
                                   Homo sapiens (Human).
                                                         16-OCT-2001 (Rel. 40, Greated)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 1
(EC 3.1.4.11) (PLC-beta-1) (Phospholipase C-beta-1) (PLC-1) (PLC-
                                                                                                                                                                                                                         PIB1_HUMAN STANDARD; PI
Q9NQ66; Q9NQ65; Q9NQH9; Q9NTH4;
                                                                                                                                                                                                                                                                                   HUMAN
                                                                                                                                                                                                             29UM26;
                                                                                                                                                                                                                                                                                                                                                            682 ALSDPKKFL-----SITEKRADQMRAMGIETSDI----ADVPSDTSKNDKKG 724
                                                                                                                                                                                                                                                                                                                                                                                                                                                      625 DN----NKLIGQRILPLDGLQAGYRHISLRNEGNKPLSLPTIFCNIVLKTYVPDGFGDIVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                566 -IGTYVEVDMYGLÞTDTIRKEFRTRMYMNNGLNÞVYNEESFVFRKVILÞDLAVLRIAVYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          722 ANGGCGYVLKPGCMCQ--GVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGE 779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   400 YKYYGA----TTNIHPYLSTMINYAQPYKFQGFHVAEERNIHYNMSSFNESYGLGYLKT 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VARSPLIC
VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           544 GKLGRKSKAEEDVESGEDAGASRRNGRLYVGSFSRRKKKGSKLKKAASVEEGDEGQDSPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             342 QEEEAHPEYKYGNELSADDLGHKEAIANSVK------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       282 RPLPSPNDLKRKILIKKQTTETEVEKKQLEALKSMMEAGESAAPVNMLEDDNEEEIESAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               224 FEEFCAFYKMMSTRRDLYLLMLTYSNHK-DHLDAASLQRFLQVEQKMAGVT-----L 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  42 YEKFYELTQKICPRTDIEDLFKKINGDKTDYLTVDQLVSFLNEHQRDPRLNEILFPFYDA 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Loca.
                                                                                                                                                                                                                                                                                                                                                                                                         ALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRG 939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HDPIGRDFIGQRTLAFSSMMPGYRHVYL--EGMEEAS---IFVHVA----VSDISGKVKQ 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IIDPFVEVEIIGLPVDCSREQ--TRVVDDNGFNPTW-EETLVF-MVHMPEIALVRFLVWD 835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YNGSCGYLLKPDFMRRPDRTFDPFSETPVDGVIAATCSVQVISGQ-----FLSDKK- 565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HAIEFVNYNKROMSRIYPKGGRVDSSNYMPQIFWNSGCOMVSLNYQTPDLAMQLNQGKFE 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GOSRGATROKKTMKLSRALSDLVKYTKSVATHDIEM--EAASSWOVSSFSETKAHQILQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SADEIDDDCKL---LNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPS 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----KASDDLE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTLPSPQMLKGKILVK-------GKKL-------PANISEDAEEGEVSDED 486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KDVIQAIKETAFVTSEYPVILSFENHCSKYQQYKMSKYCEDLFGDLLLKQALESHPLEPG 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGD---KLDLSSVSSEDA 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSHNTYLTGRQFGGKSSVEMYRQVLLAGCRCVELDCWDGKGEDQEPIITHGKAMCTDILF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWD--GPDGEPIVHHGYTLTSKILF 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KRAMQIIEMYEPDEDLKKQGLISSDGFCRYLMSDENAPVFLDRLELYQEMDHPLAHYFIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFIT 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1023 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative 110; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 383
383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14.7%;
33.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          117109
                                                                                                                                                                                                   PRT; 1216 AA.
4; 060325; Q9H4H2; Q9BQW2; Q9UJP6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MISSING (IN ISOFORM 1A).
MISSING (IN ISOFORM 2A).
MW; 416D700C2095748C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ------HENSKKG-----LVTVE--DEQAWMAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 937.5;
Pred. No. 1.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .8e-38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB_1; Length 1023;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      258;
                                                                      (PLC-I) (PLC-154).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               147; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25;
               RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R., RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L., RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M., RA Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J., RA Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J., RA Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J., RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P., Chee C.M., Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M., RA Chegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R., RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R., RA Ellington A.G., Frankland J.A., Fraser A., French L., Garner P., RA Ellington A.G., Frankland J.A., Fraser A., French L., Garner P., RA Humbon S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J., Marker B., Hunt S.E., Jekosch K., Johnson C.M., Johnson D., RA Humbon S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J., RA Lehvaslaiho M.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D., RA Marsh V.L., Martin S.L., McConnachie L.J., McLay K., McMurray A.A., RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T., RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T., RA Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Shownkeen R., Sims S., RA Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E., RA Whitehead S.L., Whittaker P., Willey D.L., Williams L., Williams S.A., RA Whitehead S.L., Whittaker P., Willey D.L., Williams S.A., Wi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <del>:</del>
                                                                                                                                                                                                                                                                      Nomura N., Ohara O.;
                                                                                                                                                                                                                                                                                             Nagase T., Ishikawa
                                                                                                                                                                                                                                                                                                                 MEDLINE=98290545; PubMed=9628581;
                                                                                                                                                                                                                                                                                                                                                       TISSUE=Brain
                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 519-1216 FROM N.A. (ISOFORM A).
                                                                                                                                                                                                                                                                                                                                                                                                      KOehrer K., Beyer A., Mewes H.-W., Gassenhuber J., Wieme
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 261-1216 FROM N.A. (ISOFORM B).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "The DNA sequence and comparative analysis of human chromosome 20."; nature 414:865-871(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rogers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. MEDLINE=21638749; Pubmed=11780052;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ISSUE=Testis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Biochim. Biophys. Acta 1484:175-182(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hybridisation of human gene of phosphoinositide-specific phospholipase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gianfrancesco F., Billi A.M., Stuppia L., Palka G., Cocco L.; "Identification and chromosomal localisation by fluorescence in situ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Caricasole A., Sala C., Roncarati R., Formenti E., Terstappen G.C.; "Cloning and characterization of the human phosphoinositide-specific phospholipase C-beta 1 (PLCbeta1)."; Biochim. Biophys. Acta 1517:63-72(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peruzzi D., Calabrese G., Faenza I., Manzoli L., Matteucci A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=20225428; PubMed=10760467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE=Bra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Caricasole A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (ISOFORMS A AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. (ISOFORM A).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PubMed=11118617;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9606;
C ENZYMES.

CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-hisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                       MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                K.-I., Miyajima N., Tanaka A., Kotani H.,
                                                                                                                                                                                                                                                                                                                                                                                                                               Wiemann S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo
```

AC AC DT DT DT DT DE DE OS

RESULT PIB1_H

밁 δÃ 망 δõ Ъ Qγ 밁 QΥ В Qy 밁 Qy В QΥ B Ş 밁 QΥ 밁 δÃ 밁 Ş В Qy 밁

79

126

162

```
Query Match
Best Local S
Matches 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ++
                                                                                                                                                                                                                                                                           MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                    PRINTS; PR00390; PHPHLIPASEC.
ProDom; PD001202; PI_PLC_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL;
                                                                CONFLICT
CONFLICT
CONFLICT
CONFLICT
                                                                                                                                            CONFLICT
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIFIC_X_DOMAIN; 1.
PROSITE; PS50008; PIFIC_X_DOMAIN; 1.
Hydrolase; Lipid degradation; Transdi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entities requires a license agreement (See http://www.isb-sib.ch/announce,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL;
                                                                                                                                                                                                                            CONFLICT
                                                                                                                                                                                                                                                                                                                                                                         Alternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro;
                                                                                                                                 CONFLICT
                                                                                                                                                                                                  CONFLICT
                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COFACTOR: Calcium.

ALTERNATIVE PRODUCTS: 2 ISOFORMS; A (SHOWN HERE) AND B; ARE PRODUCED BY ALTERNATIVE SPLICING.

MISCELLANEOUS: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-BETA 1 MEDIATED BY TWO G-PROTEIN ALPHA SUBUNITS, ALPHA-Q AND ALPHA-SIBULIARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AJ278313; CAB98142.1; -...
AJ278314; CAB98143.1; -...
AY004175; AAF86613.1; -...
AL031683; CAC16181.1; -...
AL031683; CAC34366.1; -...
AL050315; CAB56498.1; -...
AL049632; CAB46663.1; -...
AL137267; CAB70666.1; -...
AL137267; CAB70666.1; -...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AL031683; CAC16181.1;
AL031683; CAC34366.1;
AL050315; CAB56498.1;
AL049632; CAB46663.1;
AL137267; CAB70666.1;
AB011153; BAA25507.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PF00388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P10688;
    297;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HGNC: 15917;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               pean Bioinformatics Institute. There are no rest
non-profit institutions as long as its content
and this statement is not removed. Usage by an
               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IPR000008; C2.
IPR001192; PI_PLC.
IPR000909; PI_PLC_xdom.
IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                         splicing
                                                     189
203
203
203
209
309
352
352
352
352
352
352
353
353
    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PI-PLC-Y; 3. PI-PLC-X; 2.
                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PLCB1.
                                                                                                                                                                                                                                                                                                         467
656
761
331
378
                                                                               189
203
216
221
221
266
266
309
352
352
352
               14.7%;
28.4%;
                                                       138566
    155;
                Score 937; 1
                                                        ₹
                                                                                                                                                                                                                                                                                          DOMAIN X.
DOMAIN Y.
C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
PHOSPHORYLATION (BY PKC) (BY SIMILARITY)
                                                                                                                                                                                                                                                     LQVELEQEYQDKFKRLPLEILEFVQEAMKGKISEDSNHGSA
PLSLSSDPGKVNHKTPSSEELGGDIPGKEFDTPL -> GEG
SSSFLSETCHEDPSVSPNFTPPNPQALKW (IN ISOFORM
                                                                   750>×85
                                                                                                                                                                                                              LQGIATKILIRILSDALIRKETDLKS
                                                                                                                                                                                                                            MAGAQPGVHALQLKPVCVSDSLKKGTKFVKWDDD
                                                                                                                                                                                                                                                                                                                                                                                    Transducer; Phosphorylation; Calcium;
                                                                                                        ٠.
    Mismatches
                                                        6F4263D1A50C6FD1
                                                                                                                                                                                                  NI) M
                                                                   SXXD
                                                                   (IN
                                                                   REF.
                                                                                                                                                                                                  REF.
                .3e-3
                              DВ
    318;
                           Length 1216;
                                                                   CAB98143).
                                                        CRC64;
    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AND ALPHA-11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and
                                                                                                                                                                                                             (IN
    276;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      commercial
    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    İS
                                                                                                                                                                                                                            MGS
    40;
                                                                                                                                                                                                                                                                                                                       dd i
                                                                                                                                                                                                                                                                                                         δ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                DЪ
                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                           뫄
                 밁
                                         20
                                                                      먾
                                                                                            Q
                                                                                                                       망
                                                                                                                                               Q
                                                                                                                                                                          밁
                                                                                                                                                                                                  Š
                                                                                                                                                                                                                               Вþ
                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           216
                                                                                                                                                                                                                                                        750
                                                                                                                                                                                                                                                                                  612
                                                                                                                                                                                                                                                                                                           692
                                                                                                                                                                                                                                                                                                                                     552
                                                                                                                                                                                                                                                                                                                                                                                        520
                                                                                                                                                                                                                                                                                                                                                                                                                  574
                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               44
                   872 PKP-PSQALHSQPAPGS----VKAPA 892
                                                                                                                                                                            722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AMQEGMQMVK - - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      V----NLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRD------LYLLM 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ARTWVTGLRYLMAGISDEDSLARRORTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLN 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APKDPKLRELLD-----VGNIGRLEQRMITVVYGPD----LVNISH----LNLVAFQEEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SLKKGTKFVKWDDDSTIVTPIILRTDPQGFF-FYWTDQNKETELLDLSLVKDARCGRHAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TAGQLAGNSSVEMYRQVLLSGCRCVELDCWKGRTAEEEPVITHGFTMTTEISFKEVIEAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDG--PDGEPIVHHGYTLTSKILFKDVIETI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LTYSNHKDHLD-----AASLQRFLQVEQKMAGVTL-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AKEWTNEV----FSLATNLLAQNMSRDAFLEKAYTKL-----
                                                                                                                                                                                                   GFNPTW-EETLVF-MVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYL--
                                                                                                                                                                                                                                                                                                         QPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQ--GVFNPNSEDPLP
                                                                                                                                                                                                                                                                                                                                     FESFEISKKRNKSFEMSSFVETKGLEQLTKSPVEFVEYNKMQLSRIYPKGTRVDSSNYMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KLDSLIKESKIRDCEDPNNFSVST--LSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AECAFKTSPFPILLSFENHVDSPKQQAKMAEYCRLIFGDALLMEPLEKYPLESGVPLPSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EKYEPNNSLARKGQISVDGFMRYLSGEENGVVSPEKLDLNEDMSQPLSHYFINSSHNTYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LNNLCPRPEIDNIFSEFGAKSKPYLTVDQMMDFINLKQRDPRLNEILYPPLKQEQVQVLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VTPEGRIPLKNIYRLF-SADRKRVETAL---EACS---LPSSRNDSIPQEDFTPEVYRVF
                                            PGPGPAPEAPAQEGPGSGSPRGKAPA
                                                                       KKEADPGETPSEAPSEA----
                                                                                            SLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVVP 961
                                                                                                                       ERNOPLTLPAVFVYIEVKDYVPDTYADVIEALSNPIRYVNLMEQRAKQLAALTLEDEEEV
                                                                                                                                                ---EGMEEASIFVHVAVSD-----ISGKVK-----QALGLKGLFLRGPKPG
                                                                                                                                                                            AVNPVWEEEPIVFKKVVLPTLACLRIAVYEE----GGKFIGHRILPVQAIRPGYHYICLRN
                                                                                                                                                                                                                               GIVANTLSVKIISGQ------FLSDKK--VGTYVEVDMFGLPVDTRRKAFKTKTSQGN
                                                                                                                                                                                                                                                        GQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSRE--QTRVVDDN
                                                                                                                                                                                                                                                                                  QLFWNAGCQMVALNFQTMDLAMQINMGMYEYNGKSGYRLKPEFMRRPDKHFDPFTEGIVD
                                                                                                                                                                                                                                                                                                                                                              -ATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRENQQQLSRIYPSSYRVDSSNYNP
                                                                                                                                                                                                                                                                                                                                                                                                                  GSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSV-
                                                                                                                                                                                                                                                                                                                                                                                                                                            KLSE-----QASNTYSDSSSMFEPSSPGAGEADTESDDDDDDDD------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MDLMYKILVKNKK--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NKYAFIKNEYPVILSIENHC-SVIQQKKMAQYLTDILGDKL----DLSSVSSEDATTLPSP
                                                                                                                                                                                                                                                                                                                                                                                           -CKKSSMDEGTAGSEAM-----ATEE-----MSNLVNYIQPVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -LRGGSKGLVRFYYLDEHRS-----------CIRWRP
                                                                       RTTPAEN - -
                                             987
                                                                         -GVNHT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----KSHKSSEGSGKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ESCQDII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
```

480 515

691 551 632 519

611

901

721 807 671 395 399 335 341 275 281 215

455 455

Search completed: March 28, 2003, 13:49:37 Job time: 43 secs

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
       1459
1287
1288
1288
1288
1244
1009
997
997
986
986.5
947.5
947.5
947.5
947.5
947.5
947.5
947.5
947.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PIR_73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-927-112-2
6379
1 MAPPTAGPLPPEDPG.....ALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              283224 segs, 96134422 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   March 28, 2003, 13:47:05; Search time 54 Seconds
       23.9
223.9
220.23.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
220.3.9
22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
       154390

$62374

$14113

$14113

$132374

$155943

$455943

$28821

$00666

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45466

$45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (without alignments)
2148.782 Million cell updates/sec
hypothetical prote
1-phosphatidylinos
phospholipase C (E
1-phosphatidylinos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       inositol 1,4,5-tri
1-phosphatidylinos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  phosphoinositide-s
```

										-		
) .		_
Оу	Db	Db 0y	Qу 1 рь 1	Qy 1	Qу	Query Best L Matche	A; Gene: GDE A; Cross-ref A; Cross-ref C; Superfami C; Superfami domain Y hc C; Keywords: F; 302-444/I F; 486-606/I	A; Acces A; Statu A; Molec A; Resid A; Cross	RESULT 154390 phospeci C;Speci C;Acces R;Kohno Hum. Mo A;Title A;Refer	•	•	31 32 33 33 34 34 34 34 34 34 34 34 34 34 34
333 ITSS : 311 INAS	273 TLESO : 251 TEDIO	215 TDDHQGT- : 191 KSKEKLTT	57 31	100 QSEVFQRY : 73 NTETFTN-	41 CMGAN : 13 CISFN	Match Local as 34	GDB:PLC -referer osition: family: family: Y homolo rds: pho 44/Doma:	sion: I s: prel ule typ ues: 1-	inos: es: 1 10-1 sion sion f. T.		609.5 604.5	881.5 880 872 870.5 867.5 865.5 865.5 857 852 852.5 682.5
HNTYLVGD	CODITEQE :: CLDITERY	QGTLGF : : KLTTRVTE	DSLARRQRT-RI : DFMEGNQNTPRI	ידי ו	NQEGMQMVI :: NQAGCELKI	similarity 18; Conser	DE; PLC-L ces: GDB:6 2433-2433 human phos ogy sphoric di in: 1-phosp in: 1-phosp	54390 iminary; e: mRNA 997 <res> nces: GB:</res>	itide-specifi Blomo sapiens Sep-1999 #seq: I54390 Otsuka, T.; Otsuka, T.; antification number: I543			13.8 13.8 13.6 13.6 13.6 13.6 13.6 13.7
QLMSQSRV : : QFRGPAD1	EPCPENKS : ELSEEGRO	EEFCAFYK : EEFCEAFC	DQWLKQTF	FDPNC	KLRGGSKG : : KVRPNSRI	23. 36. vative	3:699207; 3:33 nosphoino diester osphatidy	tranı D421	ic p) (mar quenc ; Ta) -674, of ;			1211 2 1299 2 1217 2 1899 2 1051 2 899 2 899 2 895 1 11898 2 11922 2 11922 2 1669 1
ITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGP ; ; ; nashntylledqfrgpadingylralkmgcrsveldvsdgs	TLESCODIIEQFEPCPENKSKGLLGIDGFTNYTRSP : :: EDICLDIIRRYELSEEGRQKGFLAIDGFTQYLLSS	MMSTRRDLYLLI : :: ELCTRPEVYFLI	DEADKNGDGSL: : : : : EAADVDGNGIMI	CFSIYHGSHRES : AFSILHGENYES	LVRFYYLDEHRS : YNRFFTLDTDL(9%; Score 15 2%; Pred. No 158; Misma	PLC-L S: GDB:699207; OMIM:600597 ### 33-2933 man phosphoinositide-specinoric diester hydrolase 1-phosphatidylinositol-4, 1-phosphatidylinositol-4,	rom 9780	y se	ALIGNMENTS		T268251 T24299 A45493 S51092 S51092 S55075 S56672 S66672 T212440 T212440 T21257
DGEP DGEP	LESCODIIEOFEPCDENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHODMTQPLS	DHQGTLGFEEFCAFYKMMSTRRDLYLIMLTYSNHKDHLDAASLQRFLQVEQKMAG 	-DSLARRORT-RDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRORVKQMFREAD 	DGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDE: : : :	CMGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKN-EKAKISIDSIQEVSEGR : : :	24.5; DB 1 . 1.9e-70; tches 279;	97 Eific phospholipa ,5-bisphosphate	MBL/DDBJ PIDN:BAA07688	3.1.4) ep 1999 #text T.; Hamagu Se C famili D:7633416	ENTS		
IVHHGYTLTSKILF : : : : : ILCNRNNMTTHVSF	AGDIFNPEHHHYHQDMTQPLSHYF : : ECDIFDPEQKKVAQDMTQPLSHYY	⊢ · · <	AD OI			Length 997; Indels 177; Ga	se C; 1-phosp phosphodieste phosphodieste	.1; PID:g780122	silon - human change 10-Sep- chi, M.; Terad		phosphoinositide- phosphoinositide- phosphoinositide-	phospholipase C, i hypothetical prote phospholipase C be probable phosphoin phosphalipase C (E 1-phosphatidylinosit phosphatidylinosit phospholipase C ho hypothetical prote 1-phosphatidylinos phospholipase C -
392 370	332 310	272 250	214 190	156 130	99 72	aps 20;	hatidylinosito rase domain X	2	1999 a, M.; Yokota, osome 2q33 tha		itide-s ittide-s	e C, i prote c C-be c C-be sphoin sphoin e C (E c

	PEL-VLGT 947 	941 953	Дy
PSVSQRILRRTASAPTKSQKPGRRGF	PKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPG : : :	898 894	DP OA
LKGLFLRG : : : LRNIGLKTIDDIFKIAVH	MEEASIFVHYAVSDISG	866 834	Дb
AFSSMMPGYRHVYLEG : PFECLQPGYRHVPLRSFV	GFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEG	808 774	Дb
RGEIIDPFVEVEIIGLPVDCSREQTRVVDDN : :: : : KGDVIDPYVCVEIHGIPADCSEQRTKTVQQN	LPGQLKKQLVLRIISGQQLPKPRDSMLGE : :: : VPGVSPLLLHIKIISGQNFPKPKGACA	748 716	B Q
PGCMCQGVFNPNSEDP		690 656	Db Qy
QQLSRIYPSSYRVDSSNY : : : : KFLSRVYPSAMRIDSSNL		596	p ç
TRQKKTMKLSRALSDLVKYTKS :: : - - - -	VVGSFSRRR :: VSGDYN	569	р 54 С
EDVESGEDAGASRRNGRL : EEAEMSRR		561	Db Qy
DCKLLNGDASTNRKRVEN		452 528	Db VQ
LGDKLDLSS-VSSEDATT : : : : FGNKLYTEAPLSSESY		393 470	4d 40
DGEPIVHHGYTLTSKILF : : : DNEPILCNRNNMAMLLSF		333 410	gg Qy
PEHHHVHQDMTQPLSHYF PEQKKVAQDMTQPLSHYY	3 TLESCODIIEGFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYF 	273 350	дь О
DAASLQRFLQVEQKMAGV : : DANDLMLFLEVEQGVTHV	5 TDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGV 	215 290	дь О
LNVNLPRQRVKQMFREAD	-DSLARRQR : LDFMEGNQN	157 230	Qу
ARTWVTGLRYLMAGISDE : : ANIWVSGLRYLVSRSKQP	0 QSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDE 	100 172	Db Qy
-EKAKISIDSIQEVSEGR 	CMGAMQEGM : CISFMQAGC	41 112	DB QY

RESULT 3
\$14113
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-2 - bov
N,Alternate names: phosphoinositidase C; phospholipase C-delta-2; triphosphoinositide

```
C;Species: Bos primigenius taurus (cattle)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 02-Jun-2000
C;Accession: S14113; S04944
C;Accession: S14113; S04944
C;Accession: Kriz, R.W; Totty, N.; Parker, P.J.
Eur. J. Biochem. 196, 159-165, 1991
Bur. J. Biochem. 196, 159-165, 1991
A;Title: A second gene product of the inositol-phospholipid-specific phospholipase C-del
A;Reference number: S14113; MUID:91160548; PMID:1848183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Experimental source: brain C; Comment: The products of hydrolysis, diacylglycerol and D-myo-inositol 1,4,5-triphosph C; Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta-1; 1-phosphosphodiesterase domain x homology; calmodulin repeat homology; pleckstrin repeat homol C; Keywords: duplication; EF hand; lipid degradation; phosphoric diester hydrolase; signa c; 15-122/Domain: pleckstrin repeat homology <PLK>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F;134-166/Domain: calmodulin repeat homology <EF1>
F;170-202/Domain: calmodulin repeat homology <EF2>
F;170-202/Domain: calmodulin repeat homology <EF2>
F;292-435/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X hom F;489-609/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain Y hom F;611-725/Domain: protein kinase C C2 region homology <KC2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Accession: S14113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R;Meldrum, E.; Katan, M.; Parker, P.
Eur. J. Biochem. 182, 673-677, 1989
A;Title: A novel inositol-phospholipid-specific phospholipase C. Rapid purification and Reference number: S04944; MUID:89325315; PMID:2753038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Experimental source: brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
A; Residues: 1-764 <MEL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: protein
A; Residues: 528-541,'X',543-553;659-669 <ME2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Accession: S04944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                       밁
Š
                                                                밁
                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   147 RYLMAGISDEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRV 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     176 FQLFQTADT-SQSGTLEGEEFVEFYKSLTQRPEVQELFEKFSSDGQKLTLLEFVDFLQEE
                                                                                                                                                                                       415 QPPTQLPSPEDLRGKILVKGKKLMLEEEEEEEPEAELEAEQEA-RLDLEAQL----- 464
                                                                                                                                                                                                                                                                                                                                                                                                                                                      295 PLNHYYINSSHNTYLVGDQLCGQSSVEGYIRALKRGCRCVEVDIWDGPSGEPIVYHGHTL 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             235 QKEGERASDLALELIDRYEPSESGKLRHYLSMDGFLGYLCSKDGDIFNPTCHPLYQDMTQ 294
                                                                                                                                 507 KRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASR 566
                                                                                                                                                                                                                                                                                                                        355 TSRIPFKDVVAAIGQYAFQTSDYPVILSLENHCSWEQQEIIVRHLTEILGDQLLTTALDG 414
                                                                                                                                                                                                                                                                                                                                                                                  387 TSKILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSS 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29 FLSANILPVVERCMGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKNEKAK-- 86
567 RNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLV 626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 YLLOGRLPINODLL-LMOKGTMMRKVRSKSWKKLRFFRLODDGMTV-WHARQAGGRAKPS 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OKMAGVTLESCODIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHODMTQ 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KOMFREADTDDHOGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLORFLOVE 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QLLVGFVTNMD----QQERLDQWLSDWFQRGDKNQDGRMSFGEVQRLLHLMNVEMDQEYA 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FSISDVDTVREGHESELLRNLAE-EFPLEQGFTIVFHGRRSNLDLVANSVQEAQTWMQGL 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGL 146
                                                                                                                                                                                                                                                        EDATTLPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNR 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative 133; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22.9%; Score 1459; DB 1; Length 764; 39.2%; Pred. No. 3e-67;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            263; Indels 134;
                                                                          ----RSED----- 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21;
```

밁

밁 δÃ DЬ Qy В Š

Ş

Ş

Db	478
Qy	627 KYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSY 682
Дb	KSLIKEAGDEFVQHNAW
Qy	683 RVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVF 740
Вb	553 RTDSSNYNPQEFWNAGCQMVAMNNQTAGLEMDLCDGLFRQNAGCGYYLKPDFLRDAQSSF 612
Qy	
рь	613 HPERPISPFKAQTLIIQEPWLQVISGQQLPKVDNTKEQSIVDPLVRVEIFGVRPD 667
Qy	796 CSREQTRVVDDNGFNPTWEETLVEWVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSM 854
В	668 TTRQETSYVENNGENPYWGQTLCERILVPELALLREVVKDYDWKSRNDFIGQYTLPWSCM 727
Qy	EGMEI
DЬ	728 QQGYRHIHLLSKDGLSLHPASIFVHICTQEVS 759
RESULT T32374 hypoth	RESULT 4 T32374 hypothetical protein K10F12.3 - Caenorhabditis elegans
C; Spe C; Dat	C;Species: Caenorhabditis elegans C;Date: 29-oct-1999 #sequence_revision 29-oct-1999 #text_change 28-Jul-2000 C;Accession: T32374
R; Wol submi A; Des	R;Wohldmann, P.; Beck, C. submitted to the EMBL Data Library, September 1997 submitted to the EMBL Data Library, September 1997 A;Description: The sequence of C. elegans cosmid K10F12. A;Reference number: Z21157
A; Ac	A;Accession: T32374 A;Status: preliminary; translated from GB/EMBL/DDBJ A.MC-lockle-type. DNA
A; Re	A;Residues: 1-895 <woh> A;Residues: 1-895 <woh> A;Cross-references: EMBL:AF025462; PIDN:AAB71005.1; GSPDB:GN00021; CESP:K10F12.3</woh></woh>
A; Exp C; Ger	A; Experimental source: strain Bristol N2; clone K1UF12 C; Genetics:
A;Ge	A;Gene: CESP:K10F12.3
A; Ma A; In	A;Map position: 3 A;Map position: 3 A;Introns: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1; C:Superfamily: yeast 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase; 1-pho
osph F;33	osphodiesterase domain Y homology $F;338-487/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X$
Be Du	Length 895;
Ma (les 310; Conservative 13

Best Local Similarity

Matches

307;

Conservative

35.8%;

16;

```
A;Introns: 56/1; 132/2; 175/3; 253/1; 320/2; 368/3; 418/3; 471/3; 525/1; 564/1; 623/3; dC;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta-1; 1-phosphosesterase domain r homology; calmodulin repeat homology; pleckstrin repeat homology; ckeywords: duplication; EF hand; lipid degradation; phosphoric diester hydrolase; signa F; 8117/Domain: pleckstrin repeat homology <PLK>F:1129-161/Domain: calmodulin repeat homology <PLK>F:129-161/Domain: calmodulin repeat homology <PTZ>F: 165-197/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain x homology <PTZ-171/Domain: 1-phosphatidylinositol-4,5-bisphosphat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: GB:U50564
C;Comment: The products of hydrolysis, diacylglycerol and D-myo-inositol 1,4,5-triphosph
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Gene: PLCdelta1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Residues: 1-745 < LEO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biochem. Biophys. Res. Commun. 224, 382-390, 1996
A;Title: Genomic organization of the hamster phospholipase C-deltal gene: Differential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Date: 02-Jun-2000 #sequence_revision 02-Jun-2000 #text_change 02-Jun-2000 C;Accession: PC4183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-1 - Chir N,Alternate names: phosphoinositidase C; phospholipase C-delta-1; triphosphoinositide C; Species; Cricetulus griseus (Chinese hamster)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Status: nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Accession: PC4183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Contents: fibroblast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Reference number: PC4183; MUID: 96295498; PMID: 8702399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R; Leonis, M.A.; Silbert, D.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                    Query Match
                                                                              713/Domain: protein kinase C C2 region homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        576 QATRNYCVRVFPNPSRVDSSNLNPQEFWNNGVQMVCLNYQTPGLMMDLQEGKFSDNGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    551 KAEEDVES---GEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGODSPGGOSR 607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               396 MVQNGQTATSKITISSALRIIREFAFERSRYPLLLKVSVHCSTDWQKVAAMLIVTHLGTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TIPFECLQPGYRHIYLLNNEGDPLEHATLFVHVAITNRRGGGKAKK 796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TLAFSSMMPGYRHVYL---EG--MEEASIFVHVAVSDI--SGKVKQ 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EVFGLPGDCAEERTRTVRNDSINPSFDESFQFQVSVPELALVRFLVLDDDYIGDDFIGQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EIIGLPVDCSREOTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQR 847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YVLKPQVMKDDMFVPSDRVPTSPQI----LHLRILSGQQLPRPRGS--NAKGDSADPFVVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATROKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYL 667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCED----PNNFSVSTLSPSGKLGRKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LYLPKNDPTNWDDEKNCPTPWDFQNRILIVGKKLD---NPDTDSGEVSEED--DSL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----DLLSTAPGSTTMSSRKN--------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LDL---SSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----ASTTRR------KSKRIQLCKELSDLVPVFFNVKTLN------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DMKQPFSRYFISSSRKSYLVEDQL-GPSSSDGFSSALKRNCRFLEFDIWDPNEADGDTEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDK 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acid sequence not shown
            20.2%;
    Score 1287;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----LASVTESTCLRLMHTYATEFG
    DB 1;
Length 745;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chine
```

```
RESULT 6
                                                         밁
                                                                                                                                  В
                                                                                                                                                                       Q
                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                          맑
                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ᅜ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                         728
                                                                                              864
                                                                                                                                  899
                                                                                                                                                                                                                                                                                                              690 NPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDP
                                                                                                                                                                                                                                                                                                                                                                    492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      573 VGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      419 QLKGKILLKGKKFGGLLPAGGENGPETTDVSDEDEAAEMEDE----------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360 RAIRDYAFKASPYPVILSLENHCSLEQQQVMARHLKAILGPML-LDQPLDGVTMSLPSPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               337 HNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVI 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             125 DQRQKLQ-HWIHSCLRKADKNKDNKMNFKELKDFLKELNIQVDDSYARKIFRECDHSQTD 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                160 ARRORTRDOWLKOTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD---TD 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10 ALLKGSQLLKVKSSSWRRERFYKLQEDCKTI-WQESRKVMRSPESQLFSIEDIQEVRMGH 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     44 AMQEGMOMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
                                                   NGDQHPSATLFVKISLQD
                                                                                        --EGMEEASIFVHVAVSD 879
                                                                                                                    GFNPWWDTEFEFEVAVPDLALVRFVVEDYDASSKNDFIGQSTIPWNSLKQGYRHVHLLSK
                                                                                                                                                                                                GPWWAQKRLRVRVISGQQLPKVNKS----KNSIVDPKVIVEVHGVGQDVASRQTAVITNN
                                                                                                                                                                                                                                   LPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDN 807
                                                                                                                                                           GFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---
                                                                                                                                                                                                                                                                            {\tt SPVEMWNGGCQIVALNFQTPGPEMDYIGRFQDNGACGYVLKPAFLRDPDTAFNPRALTQ}
                                                                                                                                                                                                                                                                                                                                                       HFGGFSNPSTSGQAFYEMASFSENRALRLLQESGNNFVRHNVSHLSRIYPAGRRTDSSNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MLKGKILVKGKK----LPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENT
                                                                                                                                                                                                                                                                                                                                                                                          ATHDIEMEAASS----WQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNY
                                                                                                                                                                                                                                                                                                                                                                                                                                           VRSQVQQKSKEDKLNVAPE - - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQ 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HNTYLLEDQLTGPSSTEAYIRALCKGCRCLELDCWDGPNQEPIIYHGYTFTSKILFYDVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALSLIERYEPSETAKAQRQMTKDGFLMYLLSADGSAFSLAHRRVYQDMDQPLSHYLVSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----SLEDEEIETFYKMLTQRAEIDRVFAEAAGSAETLSVEKLVTFLQHQQREEAAGPAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RTEGLEKFA-RDIPEDRCFSIVFKDQRNTLDLIAPSSADAQHWVQGLRKI---IHHSGSM 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSL 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. 1.9e-58;
8; Mismatches 279;
                                                                                                                                                                                                                                                                                                                                                                                                                                   -----LSDMVIYCKSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  572
                                                                                                                                                                                                                                                                                                                                                       551
                                                                                                                                                                                                                                                                                                                                                                                                                                 491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        299
```

C;Species: Homo sapiens (man)
C;Date: 02-Jun-2000 #sequence_revision 02-Jun-2000 #text_change 02-Jun-2000
C;Accession: A55943
R;Cheng, H.F.; Jiang, M.J.; Chen, C.L.; Liu, S.M.; Wong, L.P.; Lomasney, J.I.
J. Biol. Chem. 270, 5495-5505, 1995

_C.L.; Liu, S.M.; Wong, L.P.; Lomasney, J.W.;

1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-1 [vali N;Alternate names: phosphoinositidase C; phospholipase C-delta-1; triphosphoinositide

```
A;Cross-references: GB:U09117; NID:g483919; PIDN:AAA73567.1; PID:g483920 A;Experimental source: aortic smooth muscle C;Comment: The products of hydrolysis, diacylglycerol and D-myo-inosital
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Title: Cloning and identification of amino acid residues of human phospholipase Cdelta A;Reference number: A55943; MUID:95197554; PMID:7890667 A;Accession: A55943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta-1; 1-phosphosphodiesterase domain Y homology; calmodulin repeat homology; pleckstrin repeat homology; cykeywords: duplication; EF hand; lipid degradation; phosphoric diester hydrolase; signa F;19-128/Domain: pleckstrin repeat homology <PLK>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F;140-172/Domain: calmodulin repeat homology <EF1>F;176-208/Domain: calmodulin repeat homology <EF2>F;176-208/Domain: calmodulin repeat homology <EF2>F;298-440/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain F;491-612/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain F;614-724/Domain: protein kinase C C2 region homology <KC2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Gene: GDB:PLCD1
A;Cross-references: GDB:6075994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: mRNA
A; Residues: 1-756 <CHE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                         밁
                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                        밁
                                           Ş
                                                                                           밁
                                                                                                                                      Š
멇
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;Comment: The products of hydrolysis, diacylglycerol and D-myo-inositol 1,4,5-triphospl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          156 EDSLARRORTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD- 214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                247
                                                                                                                                      626 VKYTKSVATHDIEMEAA---SSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    44 AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
                                           683 RVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVF 740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --TDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGV 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GPALALSLIERYEPSETTKAQRQMTKDGFLMYLLSADGSAFSLAHRRYYQDMGQPLSHYL 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QSEVFQRY----PDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISD 155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALLKGSQLLKVKSSSWRRERFYKLQEDCKTI-WQESRKVMRTPESQLFSIEDIQEVRMGH 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SQTD----SLEDEETEAFYKMLTQRVETDRTFAEAAGPGETLSVDQLVTFLQHQQREEAA 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SGSMDQRQKLQ-HWIHSCLRKADKNKDNKMSFKELQNFLKELNIQVDDSYARKIFRECDH 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RTEGLEKFARDVPE-----DRCFSIVFKDQRNTLDLIAPSPADAQHWVLGLHKI---IHH 131
TTLPSPQMLKGKILVKGKKLPANISEDAEEGE----VSDEDSADEIDDDCKLLNGDASTN 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TLESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYF 332
                                                                                                                                                                                                                                                                                             RSRVQHKP-----KEDKLR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKL---DLSSVSSEDA 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VSSSHNTYLLEDQLAGPSSTEAYIRALCKGCRCLELDCWDGPNQEPIIYHGYTFTSKILF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILF 392
                                                                                              VIYCKSVHFGGFSSPGTPGQAFYEMASFSENRALRLLQESGNGFVRHNVGHLSRIYPAGW 555
                                                                                                                                                                                                                                            RRNGRLYVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDL 625
                                                                                                                                                                                                                                                                                                                                          RKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGAS 565
                                                                                                                                                                                                                                                                                                                                                                                        -SLPSPEQLKGKILLKGKKLGGLLPPGGEGGPEATVVSDEDEAAEMEDEAV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDVLRAIRDYAFKASPYPVILSLENHCTLEQQRVMARHLHAILGPMLLNRPLDGVTN---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       308;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         134; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 1285;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2.4e-58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            265;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 756;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels 158;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                      495
                                                                                                                                                                                                                                                                                                    487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Y hon
                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C; Accession: B28821; I55942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B28821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: mRNA
A; Residues: 1-756 <SUH>
                                                                                                     Q
                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Cross-references: GB:S74591; NID:g24127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Experimental source: brain
                                                                                                                                                                                                   γ
                                                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                             Qy
       Š
                                                          Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                732 HVHLMSKNGDQHPSATLFVKISLQD 756
                                                                                                                                                                                                   160 ARRORTRDOWLKOTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD---TD 216
                                                                                                                                                                                                                                                                                                       100
                                                             195 ----SLEDEEIETFYKMLTQRAEIDRAFEEAAGSAETLSVERLVTFLQHQQREEEAGPAL
          275 ESCODIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFIT 334
                                                                                                                                                                                                                                                                                                                                                                                                  44 AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                  21 ALLKGSQLLKVKSSSWRRERFYKLQEDCKTI-WQESRKVMRSPESQLFSIEDIQEVRMGH 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HVYL-----EGMEEASIFVHVAVSD 879
                                                                                                                                                        DQRQKLQ-HWIHSCLRKADKNKDNKMNFKELKDFLKELNIQVDDGYARKIFRECDHSQTD 194
                                                                                                                                                                                                                                                                                                       QSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSL 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                        308;
                                                                                                          DHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQK--MAGVTL
                                                                                                                                                                                                                                                         RTEGLEKFA-RDIPEDRCFSIVFKDQRNTLDLIAPSPADAQHWVQGLRKI---IHHSGSM 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative 131; Mismatches 273;
```

```
741 NPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQ 800
TRYVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYR 859
                                                                                                                                NPRALAQGPWWARKRLNIRVISGQQLPKVNK----NKNSIVDPKVTVEIHGVSRDVASRQ 671
```

1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-1 - rat N;Alternate names: phosphoinositidase C; phospholipase C-delta-1; triphosphoinositide C;Species: Rattus norvegicus (Norway rat) C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 02-Jun-2000 R;Suh, P.G.; Ryu, S.H.; Moon, K.H.; Suh, H.W.; Rhee, S.G. Cell 54, 161-169, 1988
A;Title: Cloning and sequence of multiple forms of phospholipase A;Reference number: A90899; MUID:88270495; PMID:3390863
A;Accession: B28821 R;Yagisawa, H.; Tanase, H.; Nojima, H.
J. Hypertens. 9, 997-1004, 1991
A;Title: Phospholipase C-delta gene of the spontaneously hypertensive rat harbors poi
A;Reference number: 155942; MUID:92098966; PMID:1684614
A;Accession: 155942 F;140-172/Domain: calmodulin repeat homology <EF1>
F:176-208/Domain: calmodulin repeat homology <EF2>
F:298-440/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain F:491-612/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain F:491-612/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain F:614-724/Domain: protein kinase C C2 region homology <KC2> A; Note: this translation is not annotated in GenBank entry S74591, release 113.0 a; Note: spontaneously hypertensive mutant C; Comment: The products of hydrolysis, diacylglycerol and D-myo-inositol 1,4,5-tripho C; Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta-1; 1-p phosphodiesterase domain y homology; calmodulin repeat homology; pleckstrin repeat homo; Keywords: duplication; EF hand; lipid degradation; phosphoric diester hydrolase; si F;19-128/Domain: pleckstrin repeat homology CPLK> A; Molecule type: mRNA A; Residues: 1-411,'M',413-422,'S',424-462,'D',464-626,'A',628,'K',630-667,'A',669-756 A;Cross-references: GB:M20637; GB:J03136; NID:g206219; PIDN:AAA41886.1; PID:g206220 A; Status: preliminary; translated from GB/EMBL/DDBJ 19.7%; Score 1258; DB 1; 35.8%; Pred. No. 5.8e-57; Length 756;

-- - -- -- -- ::

Indels

Gaps

19;

```
RESULT 8

C28821

1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-1 - boyi
N;Alternate names: phosphoinositidase C; phospholipase C-delta-1; triphosphoinositide
C;Species: Bos primigenius taurus (cattle)
C;Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 02-Jun-2000
C;Accession: C28821
R;Suh, P.G.; Ryu, S.H.; Moon, K.H.; Suh, H.W.; Rhee, S.G.
Cell 54, 161-169, 1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R;Suh, P.G.; Ryu, S.H.; Moon, K.H.; Suh, H.W.; Rhee, Cell 54, 161-169, 1988
A;Title: Cloning and sequence of multiple forms of p)
                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Reference number: A90899;
A; Accession: C28821
73 CIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRY----PDGSFDPNCCFSIYHGSHRES 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  511 NTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGR 570
                                                                                                                       Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SKNGDQHPSATLFVKISIQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----EGMEEASIFVHVAVSD 879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVD 805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NNGFNPRWDMEFEFEVTVPDLALVRFMVEDYDSSSKNDFIGQSTIPWNSLKQGYRHVHLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TQGPWWRPERLRVRIISGQQLPKVNK----NKNSIVDPKVIVEIHGVGRDTGSRQTAVIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NYSPVEMWNGGCQIVALNEQTPGPEMDVYLGCFQDNGGCGYVLKPAFLRDPNTTFNSRAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NYNPOPFWNAGCOMVALNYOSEGRMLOLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSE 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SVHFGGFSSPGTSGQAFYEMASFSESRALRLLQESGNGFVRHNVSCLSRIYPAGWRTDSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SVATHDIEMEAASS----WQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PEQLKGKILLKGKKLGGLLPAGGENGSEATDVSDEVEAAEMEDEAV------RSQVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PQMLKGKILVKGKK----LPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVE 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VLRAIRDYAFKASPYPVILSLENHCSLEQQRVMARHLRAILGPIL-LDQPLDGVTTSLPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --ALSLIERYEPSETAKAQRQMTKDGFLMYLLSADGNAFSLAHRRVYQDMDQPLSHYLVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SSHNTYLLEDQLTGPSSTEAYIRALCKGCRCLELDCWDGPNQEPIIYHGYTFTSKILFCD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKD 394
                                                                                             Similarity
                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence of multiple forms of phospholipase A90899; MUID:88270495; PMID:3390863
                                                                                  19.5%; Score 1244; DB 2; 35.9%; Pred. No. 2.8e-56;
                                                                  124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      756
                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------KLKLVPELSDMIIYCK 500
                                                                                                          Length
                                                       Indels 154;
                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bovine
```

Дb δÃ 밁 Qy Dβ Ş Б VΩ В 20 Ъ Q 밁 Qy 밁 δÃ 밁 Ş В Qy 밁

```
В
                                                                                                                        Ş
                                                                                                                                                                 В
                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                             δã
                                                                                                                                                                                                                                                                                                                    맑
                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ζ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
            659
                                                                                                                                                                 543
                                                                                                                                                                                                                                           483
                                                                                                                                                                                                       717
                                                                                                                                                                                                                                                                                                                                                                                                                                                         410 TVVSDEDEAAEMEDEAV-----RSQVQHKS-----KEDKLR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            129 LDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIG 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 LDLIAPSPADAQHWVQGLGKI---IHHSGSMDQQQKLR-HWIHSCLRKADKNKDNKMSFK 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
DYDASSKNDFIGQSTIPLKSLKQGYRHIHLLSKNGDQHPSATLFVKVALQD
                                    DHDPIGR-DFIGORTLAFSSMMPGYRHVYL----EGMEEASIFVHVAVSD 879
                                                                                                                                                   QGRFLDNGACGYVLKPAFLRDPNSTFNSRALAHGPWWTPKRLNVRVISGQQLPKVNK---
                                                                                                                                                                                                                                                                                                                                          DSPGGOSRGATROKKIMKLSRALSDLVKYTKSVATHDIEMEAASS---WQVSSFSETKAH 656
                                                                          -NKNSIVDPKVTVEIHGVTGDVASRQTAVVTNNGFNPWWDTELEFEVAVPELALVRFVVE
                                                                                                            GDRGEIIDFFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVW
                                                                                                                                                                                         RAKFSANGGCGYYLKPGCM---CQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSML
                                                                                                                                                                                                                             RLLQESGNSFVRHNVNHLSRIYPAGWRTDSSNYSPVEMWNGGCQIVALNFQTPGSEMDVY
                                                                                                                                                                                                                                                     {\tt LSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             --VSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QRVMARHLRTLLGPML-LDRPLDGVVTSLPSPEQLRGKILLKGKKLGGLFPPGGENGPEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QKKMAQYLTDILGDKLDLSSYSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEGE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EATGSKETLSVDQLVTFLQHQQREEEAGPAL--ALSLIERYEPSETAKAQRQMTKDGFLM 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RCLELDCWDGPNQEPIIYHGYTFTSKILFCDVVRAIRDYAFKASPYPVILSLENHCSLEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCSVIQ 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YLLSADGSAFDLADRRYYQDMDQPLSHYLVSSSHNTYLLEDQLTGPSSTEAYIRALCKGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQAGC 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYSNHKDHLDAASLQRFLQVEQK--MAGVTLESCQDIIEQFEPCPENKSKGLLGIDGFTN 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ELQNFLKELNIQVDDSYARKIFKECDHSQTD----SLEDEEIETFYKILTQRKEIDRTFE 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EVLQLLHKLNVNLPRQRVKQMFREAD---TDDHQGTLGFEEFCAFYKMMSTRRDLYLLML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTIW---QEEESQLFSIEDIQEVRMGHRTEGLEKFARDVPE-----NRCFSIVFKDQRNT
                                                                                                                                                                                                                                                                                                        ---LAKELSDMVIYCKSVHFRGFPSSGTSGQAFYEMSSFSENRAL
                                                                                                                                                                                                                                                                                                                                                                                  440
                                                                                                                                                                                                                                                                                                                                                                                                                                                         440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
```

Š

A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Residues: 1-1291 <STA>
A; Residues: 1-1291 <STA>
A; Cross references: EMBL:Y00301; NID:g638; PIDN:CAA68406.1; PID:g639
C; Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
hodiesterase domain Y homology; SH2 homology; SH3 homology 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) isozyme II N,Alternate names: phosphoinositol-specific phospholipase C-II; phospholipase C, 14 C:Species: Bos primigenius taurus (cattle) C:Date: 31-Dec-1988 #sequence_revision 31-Dec-1988 #text_change 04-Feb-2000 C:Accession: S00666 A; Reference number: A; Accession: S00666 A; Title: Sequence similarity of phospholipase C with the A; Reference number: S00666; MUID:88156963; PMID:2831461 R;Stahl, M.L.; Ferenz Nature 332, 269-272, Ferenz, 1988 C.R.; Kelleher, K.L.; Kriz, R.W.; non-catalytic region Knopf, J.L. II; of.

δÃ

```
C;Keywords: phosphoric diester hydrolase
F;322-464/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X hom
F;550-657/Domain: SH2 homology <SH21>
F;668-756/Domain: SH2 homology <SH22>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              F;952-1073/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F;798-846/Domain: SH2 homology <SH22>F;798-846/Domain: SH3 homology <SH3>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멅
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                         õ
                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                        밁
           ş
                                                  밁
                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         244 MLTYS----NHKDHLDAASLQRF-------LQVEQKMAGVTLESCQDIIEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                292 Y-----FFLDEFVTFLFSKENSIWNSQLDEVCPDTMNNPLSHYWISSSHNTYLT 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 284 FEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQD-MTQPLSHYFITSSHNTYLV 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              463 LVKGKKLPA------NISEDAEEG-----
                                                                                                                                                                                                                                                                                                                533 NNFSVS------
                                                                                                                                                                                                                                                                                                                                                 640 QQVPLRCNEFEMRLSEPVPQTNAHESKEWYHASLTRAQAEHMLMRVPRDGAFLVRKRNEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               74 IRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRY-PDGSF--DPNCCFSIYHGS--HRES 128
                                                880 ACQIAVRPEGKNNRLFVFSISMASVAHWSLDVAADSQEELQDWVKKIREVAQTADARLTE 939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KDLKNMLSQVNYRVPNMR---FLRERLTDLEQRTSDITYGQFAQLYRSLMYSAQKTMDLP 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGT--LGFEEFCAFYK--MMSTRRDLYLL 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LSLQATSEDEVNMWIRGLTWLM-----EDTLQAATPLQIERWLRKQFYSVDRNREDRISA 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LDLVSTSSEVARTWVTGLRYLMAGISDEDSL-ARRQRTRDQWLKQTFDEADKNGDGSLSI 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ITWSRGADKIEGAIDIREIKEIRPGKTSRDFDRYQEDPAFRPDQSHCFVILYGMEFRLKT 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FLEASALRAGERPELCRVSLPEFQQFLLEYQGELWAVDRLQVQEFMLSFLRDPLREIEEP 291
                                                                                                                                                                                                                                                                                                                                                                                                                       DGSFLVRESETFVGDYTLSFWRNGKVQHCRIHSRQDAGTPKFFLTDNLVFDSLYDLITHY 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKI 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GDQFSSESSLEAYARCLRMGCRCIELDCWDGPDGMPVIYHGHTLTTKIKFSDVLHTIKEH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AFVASEYPVILSIEDHCSIAQQRNMAQYFKKVLGDTL-LTKPVDIAADGLPSPNQLKRKI 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY 402
                                                                                                                                                                                                                                      -----TLSPS-GKL--GR------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----LIKES------KIRDC------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEETSSDQGNEDEEEPKEASGSTELHSNEKWFHGKLGAGRDGRHIAERLLTEYCIETGAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -EVSDEDSADEIDDDCKLLNG--DASTNRKRV-----ENTAKRKLDS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LIKHKKLAEGSAYEEVPTSVMYSENDISNSIKNGILYLEDPVNHEWYPHYFVLTSSKIYY 519
           GATROKKTMKLSRALSDLVKYTKSVATHD--IEMEAASSWQVSSFSETKAHQILQQ-KPA 664
                                                                                                                          NVEKQEGGWWRGDYGGKKQLWFPSNYVEEMVSPAALEPEREHLDENSPLGDLLRGVLDVP 879
                                                                                                                                                                                                  ALEKIGTAEPDYGALYEGRNPGFYVEANPMPTFKCAVKALEDYKAQREDELTFTKSAIIQ 819
                                                                                                                                                                 DVESGE-----DAGASR-----
                                                                                                                                                                                                                                                                           NSYAISFRAEGKIKHCRVQQEGQTVMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPINEE 759
                                                                                     ------GDEGQDSPGGQSR 607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative 151; Mismatches 317; Indels 404; Gaps
<del>..</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15.8%; Score 1009; DB 2 26.1%; Pred. No. 6.5e-44
=
=
-
..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 2; Length 1291;
-----EDP 532
                                                                                                                                                                                                                                           -KSKAEE 554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   283
                                                                                                                                                                     566
                                                                                                                                                                                                                                                                                                                                                         699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      domain Y ho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                    맑
                                                                                                                                                                   Qy
                                                                                                                                                                                                          В
                     Ş
                                                          В
                                                                                             20
                                                                                                                                    Вþ
                         345
```

```
A; Map position: 20q12-20q13.1
A; Map position: 20q12-20q13.1
C; Superfamily: 1-phosphatldylinositol-4,5-bisphosphate phosphodiesterase II; 1-phosph hodiesterase domain Y homology; SH2 homology; SH3 homology
C; Keywords: phosphoric diester hydrolase
F; 322-464/Domain: 1-phosphatldylinositol-4,5-bisphosphate phosphodiesterase domain X
F; 550-657/Domain: SH2 homology <SH21>
F; 568-756/Domain: SH3 homology <SH32>
F; 798-846/Domain: SH3 homology <SH32>
F; 952-1073/Domain: 1-phosphatldylinositol-4,5-bisphosphate phosphodiesterase domain Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Burgess, W.H.; Dionne, C.A.; Kaplow, J.; Mudd, R.; Friesel, R.; Zilberstein, A.; Sc Mol. Cell. Biol. 10, 4770-4777, 1990
A;Title: Characterization and cDNA cloning of phospholipase C-gamma, a major substrat A;Reference number: A36466; MUID:90355993; PMID:2167438
A;Accession: A36466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) - human C;Species: Homo sapiens (man) C;Date: 15-Feb-1991 #sequence_revision 15-Feb-1991 #text_change 04-Feb-2000 C;Accession: A36466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Gene: GDB:PLCG1; PLC1
A;Cross-references: GDB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: GB:M34667; NID:g190037; PIDN:AAA36452.1; PID:g190038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: mRNA
A; Residues: 1-1290 <BUR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1172 FLAQATFPVKGLKTGYRAVPLKNNYSEGLELASLLVKIDV 1211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1059 HCGYVLQPSVMRDEAFDPFDKSSLRGLEPCAICIEVLGARHLPK-----NGRG-IVCPF 1111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      940 GKMMERR-KKIALELSELVVYCRPVPFDEEKIGTERACYRDMSSFPETKAEKYVNKAKGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 999 KFLQYNRLQLSRIYPKGQRLDSSNYDPLPMWICGSQLVALNFQTPDKPMQMNQALFLAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   843 FIGORTLAFSSMMPGYRHV----YLEGMEEASIFVHVAV 877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120 LSLQATSEDEVNMWIKGLTWLM-----EDTLQAPTPLQIERWLRKQFYSVDRNREDRISA 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 129 LDLVSTSSEVARTWYTGLRYLMAGISDEDSL-ARRORTRDQWLKQTFDEADKNGDGSLSI 187
                                                                                                                                                                                                                                   234 EASTLRAGERPELCRVSLPEFQQFLLDYQGELWAVDRLQVQEFMLSFLRDPLREIEEPY- 292
                                                                                                                                                                                                                                                                                                              246 TYS----NHKDHLDAASLQRF------LQVEQKMAGVTLESCQDIIEQFE 285
                                                                                                                                                                                                                                                                                                                                                                                                 175 KDLKNMLSQVNYRVPNMRFLRE-RLTDLEQRSGDITYGQFAQLYRSLMYSAQKTMDLPFL 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       188 GEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYK--MMSTRRDLYLLML 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60 ITWSRGADKIEGAIDIREIKEIRPGKTSRDFDRYQEDPAFRPDQSHCFVILYGMEFRLKT 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              74 IRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRY-PDGSF--DPNCCFSIYHGS--HRES 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VEIEVAGAEYDSIKQKTEFVVDNGLNPVWPAKPFHFQISNPEFAFLRFVVYEEDMFSDQN 1171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VEVEIIGLPVDCSREQTRVVDDNGFNPTW-EETLVFMVHMPEIALVRFLVWDHDPIG-RD 842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPF 784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANG
QLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAF 404
                                                                                                                                                             PCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQD-MTQPLSHYFITSSHNTYLVGD 344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 306;
                                                                                  ----FFLDEFVTFLFSKENSVWNSQLDAVCPDTMNNPLSHYWISSSHNTYLTGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative 157; Mismatches 331;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GDB:120299; OMIM:172420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15.6%; Score 997.5; DB 2; 25.1%; Pred. No. 2.5e-43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1290;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels 423;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             35;
```

```
C;Accession: A48047; JN0691

R;Lee, C.W.; Park, D.J.; Lee, K.H.; Kim, C.G.; Rhee, S.G.
J. Biol. Chem. 268, 21318-21327, 1993

A;Title: Purification, molecular cloning, and sequencing of phospholipase C-beta 4.
A;Reference number: A48047; MUID:94012687; PMID:8407970
                                                                                                 phospholipase C (EC 3.1.4.-) beta-4 - rat
C;Speciles: Rattus norvegicus (Norway rat)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 02-Jun-2000
                                                                                                                                                                                      A48047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             726
                                                                                                                                                                                                          11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             666 YLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      941 KIMERR-KKIALELSELVVYCRPVPFDEEKIGTERACYRDMSSFPETKAEKYVNKAKGKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  581 GSFLVRESETFVGDYTLSFWRNGKVQHCKIHSRQDAGTPKFFLTDNLVFDSLYDLITHYQ 640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 462 KHKKLAEGSAYEEVPTSMMYSENDISNSIKNGILYLEDPVNHEWYPHYFVLTSSKIYYSE 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               343
                                                                                                                                                                                                                                                                                                                                      LAQATFPVKGLKTGYRAVPLKNNYSEDLELASLLIKIDIFPAKENGDLSPFSGTSLRERG 1232
                                                                                                                                                                                                                                                                                                                                                                                                                         EIEVAGAEYDSTKQKTEFVVDNGLNPVWPAKPFHFQISNPEFAFLRFVVYEEDMFSDQNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFV 785
                                                                                                                                                                                                                                                                  SDASGQLFHGRAREGSF 1249
                                                                                                                                                                                                                                                                                                          SDISGKVKQALGLKGLF 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                              EVEIIGLPVDCSREQTRVVDDNGFNPTW-EETLVFMVHMPEIALVRFLVWDHDPIG-RDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGYVLQPSTMRDEAFDPFDKSSLRGLEPCAISIEVLGARHLPK-----NGRG-IVCPFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FLQYNRLQLSRIYPKGQRLDSSNYDPLPMWICGSQLVALNFQTPDKPMQMNQALFMTGRH 1059
                                                                                                                                                                                                                                                                                                                                                                                    IGQRTLAFSSMMPGYRHV----YLEGMEEASIFVHVAV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATROKKTMKLSRALSDLVKYTKSVATHD--IEMEAASSWQVSSFSETKAHQILQQ-KPAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CQIAIRPEGKNNRLFVFSISMASVAHWSLDVAADSQEELQDWVKKIREVAQTADARLTEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----RNGRLVVGSFSRRKKKGSKLKKAASVEE-----GDEGQDSPGGQSRG 608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VEKQEGGWWRGDYGGKKQLWFPSNYVEEMVNPVALEPEREHLDENSPLGDLLRGVLDVPA 880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VESGE-----DAGASR----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LEKIGTAEPDYGALYEGRNPGFYVEANPMPTFKCAVKALFDYKAQREDELTFIKSAIIQN 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SYAISFRAEGKIKHCRVQQEGQTYMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPINEEA 760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QVPLRCNEFEMRLSEPVPQTNAHESKEWYHASLTRAQAEHMLMRVPRDGAFLVRKRNEPN 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ETSSDQGNEDEEEPKEVSSSTELHSNEKWFHGKLGAGRDG-RHIAERLLTEYCIETGAPD 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NFSVS----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KGKKL-----ISE 475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILV 464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---LIKES-------KIRDC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DA-----EEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VASEYPVILSIEDHCSIAQQRNMAQYFKKVLGDTL-LTKPVEISADGLPSPNQLKRKILI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QFSSESSLEAYARCLRMGCRCIELDCWDGPDGMPVIYHGHTLTTKIKFSDVLHTIKEHAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -TLSPS-GKL--GR-----KSKAEED 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----EDPN 533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---- 566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     402
                     Ş
                                                          g
                                                                                                    Qy
                                                                                                                                                 밁
                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                     QV
                                                                                                                                                                                                                                                                                                                                                                                                                                    ΩV
                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
```

Š

밁 δÃ 밁 Q Ъ Ş 밁 Qy В Ş Дb ρ 밁 δÃ 밁 Š

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Note: the authors translated the codon AAC for residue 140 as Lys, CAG for residue C;Comment: This enzyme belongs a member of the phosphoinositide specific phospholipas messenger molecules, inositol 1,4,5-triphosphate and diacylglycerol in response to t C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase I; 1-phospha odiesterase domain Y homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Keywords: phosphoric diester hydrolase
F;315-463/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain
F;565-685/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Note: sequence extracted from NCBI backbone (NCBIP:138517)
A; Note: this translation is not annotated in GenBank entry RATBETA4AA, release 113.0
R; Kim, M.J.; Bahk, Y.Y.; Min, D.S.; Lee, S.J.; Ryu, S.H.; Suh, P.G.
Biochem. Biophys. Res. Commun. 194, 706-712, 1993
A; Title: Cloning of cDNA encoding rat phospholipase C-beta4, a new member of the phos
A; Reference number: JN0691; MUID:93343926; PMID:7688223
A; Accession: JN0691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Molecule type: mRNA
A;Residues: 1-254,'M',256-307,'A',309-416,'E',418-469,'K',471-504,506-545,'DE',548-73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Accession: A48047
A;Status: preliminary; not compared with conceptual translation A;Nolecule type: mRNA
A;Residues: 1-1176 <LLEB>
A;Cross-references: GB:L15556; NID:g404071
A;Experimental source: brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Experimental source: brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Cross-references: GB:L18962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
        602 PGGOSRGATROKKTMKLSRALSDLVKYTKSVATHDIEM--EAASSWQVSSFSETKAHQIL
                                                                                      513
                                                                                                                                                                                          484 GESAAPASILEDD----
                                                                                                                                                                                                                                                       488
                                                                                                                                                                                                                                                                                                             424
                                                                                                                                                                                                                                                                                                                                                                 431
                                                                                                                                                                                                                                                                                                                                                                                                   364 GKGEDQEPIITHGKAMCTDILFKDVIQAIKETAFVTSEYPVILSFENHCSKYQQYQMSKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             192 PSGKNDEIEPAAFT-----YEKFYELTQKICPRTDIEDLFKKINGDKTDYLTVDQLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    138 -ANNYSPMTCLKKHWMKLAF---LINTSGKIPVRSITRTFASGKTEKVIFQALKEL--GL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18 QEGAVFDRYEEESFVFEPNCLFKVDEFGFFLTWKSEGKEGQVLECSLINSIRLAAIPKDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99
                                                                                PEYKFGNELSADD----
                                                                                                                        PSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDS
                                                                                                                                                                                                                                   ADE-----IDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLS
                                                                                                                                                                                                                                                                                         CEDLFGDLLLKQALESHPLEPGRLLPSPNDLKRKILIKNKRLKPEVEKKQLEALKSMMEA
                                                                                                                                                                                                                                                                                                                                          LTDILGD---KLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                    --GPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWD 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VFLDRLELYQEMDHPLAHYFISSSHNTYLTGRQFGGKSSVEMYRQVLLAGCRCVELDCWD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SFLNEHORDPRLNEILFPFYDAKRAMOIIEMYEPDEELKKKGLISSDGFCRYLMSDENAP 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RFLQVEQKMAGVT-----LESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHK-DHLDAASLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEDSLARRORTRDQWLKQTFDEADKNGDGSLSIGE------VLQLLHKLNVNL 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KILAALESVGKSENDLEGRILCVCSGTDLVNIGFTYMVAENPEITKQWVEGLRSIIHNFR 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------GSHRESLD-------LVSTSSEVARTWVTGLRYLMAGIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RQSEVFQRYPDGS--FDPNCCFSIYH-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15.6%; Score 997; DB 1; 29.7%; Pred. No. 2.4e-43;
=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               142;
                                                                                                                                                                                     -NEEEIESAADQEEEA
                                                                    -----FSHKEAVANSVKKGLVTVE-DEQAWM 550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches 326;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels 224;
                                                                                                                                                                                  H----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                    659
                                                                                                                                                                                                                                                                                            483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   32;
```

OY 237 REDLYLLHITTSHKUHLDAASLOPELUPON
237 RRDLYLLALTYSHKCHLDANSLORPLOVEOK
RRDLYLLMLTYSNIKDHLDAASLORPLQVEOKMAGYTLES-CODIIEQFEPCPE LSGSGVANFFYSEDOQVYRPPELGQFEPTOASCASEISSANIASFIRDFYQDVER NKSKGLLGIDGFTNYTRSPAGDIFNPEHHYHQDMTQPLSHYFITSSHNTYLVGDQLMSQ
MAGUTLES-CODIIEOFEPCDE ::: : : : SEISSANIASFIRDFUDVER GDLSHYFITSSHNTYLTGDQFSSE LTSKILFKDVIETINKYAFIKNEY :
289 289 351 364 409 4409 4411 469 505 505 505 505 506 507 700 800 603 950 603 950 603 970 11064

RESULT 13
A31317
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) II - rat

	NLVFDSLYDLIT 637	:: APDGSFLVRESETFVGDYTLSFWRNG	υı	문
			y 520	Š
	ENTAKRKLDS 519 : : RHIAERLLTEYCIETIC 577	YYSEETSSDQGNEDEEEPKEASGSTELHSSEKWFHGKLGAGRDG		8 5
		KILIKHKKLAEGSAYEEVPTSVMYSENDISNSIKNGILYLEDPV	b 458	ρ Β
	480		у 461	Ω
	ATTLPSPQMLKG 460	KYAFIKNEYPYILSIENHCSYIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG	y 401 b 399	요 성
	KILFKDVIETIN 400		y 341 b 339	ъ Q
	SHYFITSSHNTY 340 : : SHYWISSSHNTY 338	<pre>2 EQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHV-HQDMTQPLSHYFTTSSHNTY :</pre>	y 282 b 290	gg Qy
:	-LQVEQKMAGVTLESCQDII 281 :: 	LLMLTYSNHKDHLDAASLQRF	b 230	₽ 42 63
•	KKMMSTRRDLY 241 	SIGEVIC :: SAKDLKN		
	TFDEADKNGDGSL 185			
	CCFSIYHGSHR 126 : HCFVILYGMEFRL 117			0 0
	Length 1290; Indels 410; Gaps 36;	imilarity 25.6%; Pred. No. 1.1e-42; Conservative 157; Mismatches 313;	Query Match Best Local s Matches 303	
•	e phosphodiesterase domain,y hg,	6/Domain: SH3 homology <sh3> 6/Domain: SH3 homology <sh3> 73/Domain: 1-phosphatidylinositol-4,5-bisphosphat</sh3></sh3>	798-846	nat has
	phosphodiesterase domain $\mathbf X$ hom	<pre>E;Reywords: phosphoprotein: phosphoric diester hydrolase F;322-464/Domain: 1-phosphatidylinositol-4,5-bisphosphate pl F;550-657/Domain: SH2 homology <sh21> F;668-756/Domain: SH2 homology <sh22></sh22></sh21></pre>	F; 322-464 F; 550-657 F; 668-756	H H H C
	15, NCBIP:135516) osphodiesterase II; 1-phosphati y	sequence extracted from NCBI backbone (NCBIN:135) amily: 1-phosphatidylinositol-4,5-bisphosphate places domain Y homology; SH2 homology; SH3 homology;	A; Note: s C; Superfa hodiester	7 - 0 -
	-	A;Status: preliminary A;Molecule type: DNA A;Residues: 1-29 <lee></lee>	A;Status A;Molecul A;Residue	~~~
	1 gene.	Biochem. Biophys. Res. Commun. 194, 294-300, 1993 A;Title: Promoter region of the rat phospholipase C-gamma A;Reference number: A56761; MUID:93326133; PMID:8392838 A;Accession: A56761	A;Title: Promable Richard Reference 1 A;Reference 1 A;Recession:	
	.1; PID:9206324	A;Residues: 1-1290 <suh> A;Residues: 1-1290 <suh> A;Cross-references: GB:J03806; NID:g206323; PIDN:AAA41921 R;Lee, S.J.; Ryu, S.H.; Suh, P.G.</suh></suh>	A;Residu A;Cross- R;Lee, S	
	complete cDNA and protein seque	ALLE: HUSICAL PHOSPHOLIPIG SPECIFIC PHOSPHOLIPASE C: Reference number: A31317; MUID:88289733; PMID:2840660 Accession: A31317 MUID:86289733; PMID:2840660 Molecule type: mRNA	A; Refere A; Access A; Molecu	
		P.G.; Ryu, S.H.; Moon, K.H.; Suh, H.W.; Rhee, S.G tl. Acad. Sci. U.S.A. 85, 5419-5423, 1988	R; Suh, P Proc. Na	
	31-Mar-2000	C;Date: 31-Mar-1990 #sequence_revision 31-Mar-1990 #text_CAccession: A31317; A56761	C; Date: C; Access	
	olipase C type II; phospholipase	inositol p	N; Altern	

Qy	530		530
В	638	${\tt HYQQVPLRCNEFEMRLSEPVPQTNAHESKEWYHASLTRAQAEHMLMRVPRDGAFLVRKRN} \ \ \epsilon$	697
Qy	531	DPNNESVSTLSPSGK 5	551
망	698	EPNSYAIS-FRAEGKIKHCRVQQEGQTVMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPI 756	56
Qγ	552	AEEDVESG	559
В	, 757	NEEALEKIGTAEPDYGALYEGRNPGFYVEANPMPTFKCAVKALFDYKAQREDELTFTKSA 8	816
Qy	560	EDAGASR 5	566
Db	817	IIQNVEKQDGGWWRGDYGGKKQLWFPSNYVBEMINPAILEPEREHLDENSPLGDLLRGVL 876	76
Qy	567		04
망	877	DVPACQIAIRPEGKNNRLFVFSISMPSVAQWSLDVAADSQEELQDWVKKIREVAQTADAR 936	36
Qy	605	QSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQ- 661	61
뮹	937	TEGKMMERR-KKIALELSELVYYCRPVPFDEEKIGTERACYRDMSSFPETKAEKYVNKA 995	95
Qy	662	KPAQYLRENQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFS 721	21
Дb	996	KGKKELQYNRLQLSRIYPKGQRLDSSNYDPLPMWICGSQLVALNFQTPDKPMQMNQALFM 1	1055
Qγ	722		781
Ъ	1056	AGGHCGYVLQPSTMRDEAFDPFDKSSLRGLEPCVICIEVLGARHLPKNGRG-IV 1	1108
VΩ	782		840
Ъ	1109	CPFVEIEVAGAEYDSTKOKTEFVVDNGLNPVWPAKPFHFQISNPEFAFLRFVVYEEDMFS 1	1168
Qy	841	-RDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVAV 877	
Ъ	1169	DONFLAQATFPVKGLKTGYRAVPLKNNYSEDLELASLLIKIDI 1211	
RESULT 14	T 14		

A34163
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) - rat
C;Species: Rattus norwegicus (Norway rat)
C;Date: 11-Apr-1990 #sequence_revision 11-Apr-1990 #text_change 04-Feb-2000
C;Accession: A34163
R;Emori, Y; Homma, Y; Sorimachi, H; Kawasaki, H; Nakanishi, O; Suzuki, K; Taken
A;Title: A second type of rat phosphoinositide-specific phospholipase C containing a
A;Title: A second type of rat phosphoinositide-specific phospholipase C containing a
A;Reference number: A34163; MUID:90094370; PMID:2557343
A;Accession: A34163; MUID:90094370; PMID:2557343
A;Accession: A34163; MUID:90094370; PMID:2557343
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-1265 < CEMO>
A;Cross-references: GB:J05155; NID:g206242; PIDN:AAA41896.1; PID:g206243
C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase II; 1-phosph
C;Keywords: phosphoric diester hydrolase
F;514-456/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain x
F;646-735/Domain: SH2 homology <SH2>
F;776-824/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain x
F;929-1047/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain x 밁 Query Match 15.2%; Score 968.5; DB 2; Length 1265; Best Local Similarity 25.2%; Pred. No. 7.5e-42; Matches 293; Conservative 175; Mismatches 301; Indels 393; Gaps 74 IRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSH--RESLDL 131 52 VANSKTADKIEGFLDIMEIKEIRPGKNSKDFERAKAVRHKADCCFTIFYGTOFVLSTLSL 111

857

GYRHV----YLEGMEEASIFV

873

MP 856 KS 1160	801 TRVVDDNG5NPTWEETLVFMVHMPEIALVRFLVWDHDPIG-RDFIGQRTLAFSSMMP : : : : : : : : : : :	g 8
EQ 800 ; FK 1100	745 EDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQ	Qу
NS 744 EK 1047	685 DSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNS 	ОУ
RV 684 	625 LVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRV	B &
SD 624 	610KKTMKLSRALSD 1:	DP QV
609 AF 872	599	Db Qy
EG 598 YG 812	576	Db Qq
575 SL 752	565SRRNGR-LVVGS	DP 6Å
564 KH 692	547SGEDAGA	ру
546 LT 632	536 SVSTLSPSGKL	. B. 8
NF 535 :: DY 573	495CKLLNGDASTNRKRVENTAKRKL	g S
D- 494 517	469 LPANISEDAEEGEVSDEDSADEIDDD	₽ Q
KK 468 	409 YPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKK : : :	g gy
NE 408 : SS 398	349 QSRVDMYAMVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNE	В 64
MS 348 RS 338	290 NKSKGLLGIDGETNYTRSÞAGDIENPEHHHVH-QDMTQPLSHYFITSSHNTYLVGDQLMS ::	g &
PE 289 MR 278	237 RRDLYLLMLTYSNHKDHLDAASLQRF-LQVEQKMAGYTLESCQDIIEQF-EPCPE	Db Qq
ST 236 EF 221	192 QLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMST : : : : :	Дy
VI 191 : LK 167	132 VSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGEVL 	Db Qy

```
``
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phospholipase C (EC 3.1.4.3), phospholnositol-specific - human
C;Species: Homo sapiens (man)
C;Species: 30-Sep-1989 #sequence_revision 30-Sep-1989 #text_change 04-Feb-2000
C;Accession: S02004
R;Ohta, S.; Matsui, A.; Nazawa, Y.; Kagawa, Y.
FEBS Lett. 242, 31-35, 1988
A;Title: Complete cDNA encoding a putative phospholipase C from transformed human lym
A;Reference number: S02004; MUID:89078616; PMID:2849563
A;Accession: S02004
A;Molecule type: mRNA
A;Ccession: S02004
A;Molecule type: mRNA
A;Cross references: EMBL:X14034; NID:g35513; PIDN:CAA32194.1; PID:g35514
C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase II; 1-phosph
C;Keywords: phosphoric diester hydrolase
F;314-456/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X
F;532-635/Domain: SH2 homology <SH2>
F;366-735/Domain: SH2 homology <SH3>
F;376-824/Domain: SH3 homology <SH3>
F;376-824/D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              οy
   δõ
                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ġ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                     Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F;929-1047/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1161 GFRSVPLKNGYSEDIELASLLV 1182
   526
                                                                     571
                                                                                                                                       526
                                                                                                                                                                                                     511
                                                                                                                                                                                                                                                                       495
                                                                                                                                                                                                                                                                                                                                      451
                                                                                                                                                                                                                                                                                                                                                                                                        462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   32 TGDQLRSESSPEAVIRCLRMGCRCIELDCWDGPDGKPVIYHGWIRTTKIKFDDVVQAIKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241 YLLMLTYSNHKDHLDAASL-----QRFL------QVEQKMAGVTLESCQDIIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 402 YAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        342 VGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               52 VAWSKTADKIEGFLDIMEIKEIRPGKNSKDFERAKAVRQKEDCCFTILYGTQFVLSTLSL 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HAFVTSSFPVILSIEBHCSVEQQRHMAKAFKEVFGDLL-LTKPTEASADQLPSPSQLREK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVH-QDMTQPLSHYFITSSHNTYL
                                                                                                                                                                                                  QTMEEEVPQDIPPTELHFGEKWFHKKVEKRTSAEKLLQEYCMETGGKDGTFLVRESETFP 570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PF------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SVFIL---GNTDRPDASAVYLHDFQRFLIHEQQEHWAQDLNKVRERMTKFIDDTMRETAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QLLHKLNVNLPRQR-VKQMFREADTDDHQGTLGFEEFCAFYKMM-----STRRDL 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AADSKEDAVNWLSGLKIL----HQEAMNASTPTIIESWLRKQIYSVDQTRRNSISLRELK 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGEVL 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSH--RESLDL 131
                                                              NDYTLSFWRSGRVQHCRIRSTMEGGTLKYYLTDNLRFRRMYALIQHYRETHLPCAEFELR 630
                                                                                                                                                                                                                                                                                                                                      IIIKHKKLGPRGDVDVNMEDKKDEHKQQGELYMWDSIDQKWTRHYCAIADAKLSFSDDIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TILPLINFKYSSAKFLKDKFVEIGA--HKDELSFEQFHLFYKKLMFEQQKSILDEFKKDS
                                                                                                                                                                                                                                                                                                                                                                               ILVKGKKL-----PANI----SEDAEEGEVSDEDSADE-----IDDD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         h 14.9%; Score 950.5; DB 2; Length 1252; Similarity 25.1%; Pred. No. 6.2e-41; 92; Conservative 164; Mismatches 310; Indels 399;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -LFVDEFLTYLFSRENSIWDEKYDAVDMQDMNNPLSHYWISSSHNTYL
                                                                                                                                                                                                                                                                    ·CKLLNGDASTNRKRVENTAKRKL-----
IRDCEDPNNFSVSTLSPSGK 545
                                                                                                                                                                                                                                                                    -DSLIKESK---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               399;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                  510
                                                                                                                                                                                                                                                                                                                                                                                                 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               34;
```

Db	LTDPVPNPNPHESKPWYYDSLSRGEAEDMLMRIPRDGAFLIRKREGSDSYAI-TFRARGK
B 2	690 VKHCRINRDGRHFVLGTSAYFESLVELVSYYEKHSLYRKMRLRYPVTPELLERYNTERDI 749
Qу	557 ESGEDAGKKAASVEEG 595
Ъ	750 NSLYDVSRMYVDPSEINPSMPQRTVKALYDYKAKRSDELSFCRGALIHNVSKEPGGWWKG 809
Qy	596 DEG
В	810 DYGTRIQQYFPSNYVEDISTADFEELEKQIIEDNPLGSLCRGILDLNTYNVVKAPQGKNQ 869
Qy	609KKTMKLSRA 621
Db	870 KSFVFILEPKEQGDPPVEFATDRVEELFEWFQSIREITWKIDSKENNMKYWEKNQSIAIE 929
Ωу	622 LSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSS 681
뮹	930 LSDLVVYCKPTSKTKDNLENPDFREIRSFVETKADSIIRQKPVDLLKYNQKGLTRVYPKG 989
Ωу	682 YRVDSSNYNDQPEWNAGCQMVALNYQSEGRMLQLNRAKESANGGCGYVLKPGCMCQGVFN 741
Db	990 QRVDSSNYDPFRLWLCGSQMVALNFQTADKYMQMNHALFSLNGRTGYVLQPESMR 1044
Qy	742 PNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCS 797
В	1045 TEKYDPMPPESQRKILMTLTVKVLGARHLPKLGRSIACPFVEVEICGAEYGNN 1097
Qy	798 REQTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIG-RDFIGQRTLAFSS 853
Db	1098 KFKTTVVNDNGLSPIWAPTQEKVTFEIYDPNLAFLRFVVYEEDMFSDPNFLAHATYPIKA 1157
Qy	854 MMPGYRHVYLEGMEEASIFV 873
Db	1158 VKSGFRSVPLKNGYSEDIELASLLV 1182
Searc Job t	Search completed: March 28, 2003, 13:52:36 Job time : 66 secs

```
OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A_Geneseq_101002:*

1: /SIDS2/gcgdata/gc
2: /SIDS2/gcgdata/gc
3: /SIDS2/gcgdata/gc
4: /SIDS2/gcgdata/gc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-927-112-2
6379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              March 28, 2003, 13:39:09; Search time 80 Seconds (without alignments) 2010.419 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             908470 segs, 133250620 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gapop 10.0 , Gapext 0.5
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1985.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1985.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1985.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1987.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1989.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1989.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1990.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1990.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1991.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1991.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1993.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1995.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1995.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1995.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1995.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1999.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1999.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1990.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA1990.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA2000.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA2000.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA2000.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA2000.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA2000.DAT: *
SIDS2/gcgdata/geneseq/geneseqp-embl/AA2000.DAT: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MAPPTAGPLPGPALPPEDPG.....ALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1980.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1981.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1981.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Match 100%
                                                                                                                                                                            . 2
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Result No.	Score	Query Match Length DB	ength		ID	Description
1	6092.5	95.5	1239	23	ABB08205	lipid
2	4941	77.5	1619	23	AAU77498	Human lipid metabo
ω	3225	50.6	621	23	ABB07493	Human lipid metabo
4	3163	49.6	1014	23	ABB08001	Human lipid metabo
Ų,	2343	36.7	787	22	ABG13669	Novel human diagno
6	2343	36.7	787	23	AAE14673	Human phosphatidyl
7	1524.5	23.9	997	23	AA017367	Human phospholipas
8	1517	23.8	1096	17	AAW01596	Inositol-1,4,5-tri
9	1441	22.6	762	22	AAE10440	Novel human phosph
10	1441	22.6	762	23	AAE14268	Human phospholipas

Khan FA, Das D,

Reddy R, Yao MG, Nguyen DB, Lu Y, Tribouley CM, A, Gandhi AR, Au-young J, Lal P, Kearney L, Elli , Thornton M;

3	RABITESSO		40	0.4	0.22.5	4
Himan Coloi for CS	35T11030	ر د د	ا د ا د		n (
	CED1044	17	7		л : Э	
"Human protein sequ	AAB94419	22	306	9.4	599.5	4
Novel central nerv	AAU87209	22	324	9.8	622	42
S. cerevisiae Pici	AAR53732	15	869	10.7	682.5	41
	AAU11620	23	628	10.7	685.5	40
Human polypeptide	AAM43569	22	214	11.2	713	39
Novel central nerv	AAU87352	22	214	11.3	719	38
-	AAU11619	23	1054	11.3	723.5	37
Human phospholipas	AAE13101	22	1809	13.2	840.5	36
Human novel polype	ABG66735	23	1579	13.2	841	35
Amino acid sequenc	ABB07352	23	1898		852	34
Human protein SEQ	AAM80177	22	1058	14.1	896.5	33
Human DITHP polype	ABG59980	23	178	14.6	931	32
Human lipid metabo	ABB08204	23	1216	14.7	939	31
Human protein SEQ	AAM79193	22	1216		939	30
Drosophila melanog	АВВ60755	22	1312		945.5	29
Phospholipase C-ga	AAR90583	17	1290	•	985	28
Drosophila melanog	ABB60480	22	1236	15.5	990	27
Human CG121 (or C5	AAE11925	22	567	15.7	1002	26
Human lipid metabo	ABB08201	23	1093	•	1006.5	25
Human phospholipas	AAU76817	23	809	17.0	1085.5	24
Human protein sequ	AAB94673	22	677	•	1106	23
Human protein sequ	AAB95125	22	466	•	1256.5	22
Rat phospholipase	AAY81394	21	756	•	1258	21
Human novel polype	ABG66721	23	794	•	1277.5	20
	ABG66693	23	794	•	1277.5	19
Human phospholipas	AAE21821	23	736	•	1278.5	18
Human phospholipas	AAB47516	22	736	•	1279.5	17
Amino acid sequenc	AAG63220	22	789	20.2	1290	16
Human lipid metabo	ABB07492	23	731	•	1325.5	15
Human phospholipas	AAE14269	23	785	•	1372.5	14
Human phospholipas	AAE14270	23	759	•	1385.5	13
Human phospholipas	AAU76816	23	762	22.4	1432	12
Human lipid metabo	ABB08008	23	828	22.6	1439	11

ALIGNMENTS

RESULT 1 ABB08205

04-MAR-2002 (first entry)

ABB08205;

ABB08205 standard; Protein; 1239 AA.

```
Human; LME-5; lipid metabolism enzyme-5; cytostatic; neuroprotective; immunosuppressive; anti-inflammatory; cardiovascular; gene therapy; enzyme therapy; cancer; neurological disorder; autoimmune disorder; inflammatory disorder; cardiovascular disorder.
                                                              11-MAY-2000; 2000US-203511P.
25-MAY-2000; 2000US-207903P.
07-JUN-2000; 2000US-210150P.
23-JUN-2000; 2000US-213392P.
                                                                                                                       11-MAY-2001; 2001WO-US15210
                                                                                                                                            15-NOV-2001.
                                                                                                                                                                  WO200185956-A2
                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                                                    Human lipid metabolism enzyme-5 (LME-5).
                                         (INCY-) INCYTE GENOMICS INC
```

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the invention. The invention relates to novel human in the invention and the compounds which identify and encode them. The enzymes of the convention have cytostatic, neuroprotective, immunosuppressive, and the convention have cytostatic, neuroprotective, immunosuppressive, and cardiovascular activity. The polypoptides and convention have a use in gene therapy and enzyme therapy. The lipid metabolism enzymes are useful in the diagnosis, treatment and prevention conformation of cancer, neurological disorders, autoimmune/inflammatory disorders, and in the assessment of the effects of cardiovascular disorders, and in the assessment of the effects of cardiovascular disorders, and in the assessment of the effects of cardiovascular disorders, and in the assessment of the effects of cardiovascular disorders, and in the assessment of the effects of cardiovascular disorders, and in the assessment of the effects of cardiovascular disorders, and in the assessment of the effects of cardiovascular disorders, and in the assessment of the effects of cardiovascular disorders, and in the assessment of the effects of cardiovascular disorders, and in the assessment of the effects of cardiovascular disorders, and in the assessment of the expression of including the may also be used to screen compounds that modulate the activity of LME. Polynucleotides encoding cardiovascular disorders and the expression in biopsied tissues in which expression of LME may be correlated with disease, to generate a transcript image of a clisue or cell type, to generate hybridization probes useful in mapping compounds in drug screening techniques. The polypeptide sequences may be used to analyse the proteome of a tissue or cell type. Oligonucleotide collected effects single nucleotide sequences encoding LME may be used to detect single nucleotide polymorphisms.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 1166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         detect single nucleotide polymorphisms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New lipid metabolism enzymes useful for diagnosing, treating and preventing cancer, neurological disorders, autoimmune/inflammatory disorders, and cardiovascular disorders
             481
                                                              449
                                                                                                              421
                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                     329
                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                            269
                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; Page 114-116; 122pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         42 MGAMQEGMOMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGROS 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence represents a novel human lipid metabolism enzyme (LME-5) invention. The invention relates to novel human LME's, and the
ATTLPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKR
                     ATTLPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKR
                                                                                                 KILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSED
                                                                                                                                                 KILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSED
                                                                                                                                                                                                    SHYFITSSHNTYLYGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTS
                                                                                                                                                                                                                                  SHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTS
                                                                                                                                                                                                                                                                                                        MAGVTLESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPL
                                                                                                                                                                                                                                                                                                                                      MAGYTLESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPL 328
                                                                                                                                                                                                                                                                                                                                                                                                            ALQEADTDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQK 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---EADTDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQK 268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RQRTRDQYPWAPIGQCRPRDRPLGCSPWGGLSFAGSHTGEVAGQRVEWLKQTFDEADKNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLAR 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MGAMQEGMQMYKLRGGSKGLVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DGSLSIGEVLQLLHKLNVNLPRQRVKQMFRVAGHAWLEQGKLACSQDRALVEVPMGTQGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RQRTRDQ-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2002-089794/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABA96005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              À,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             95.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----WLKQTFDEADKNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 6092.5;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ς.
```

```
ν
                                                                                                                                                                                                                                                                                                                           Ŗ
                                                                                                                                                                                                                                                                                                                                                        Ωy
                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                         1201
                                                                                                                                                                                                                                                                                       1169
            Human; lipid metabolism enzyme; LAM-6; immune system disorder; neurological disorder; developmental disorder; cancer; nootrop
cell proliferative disorder;
                                                                    Human lipid metabolism
                                                                                                                                                                                                                                                                                                                         1141
                                                                                                      05-JUN-2002
                                                                                                                                                                   AAU77498 standard; Protein; 1619
                                                                                                                                                                                                                                                                                                                                                          1109
                                                                                                                                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                                                                                                                           1049
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                  GSPAAASAWTVSPRVLVLVALYPWHCLRGTLLPWLACGP 1239
                                                                                                                                                                                                                                                                      GSPAAASAWTVSPRVLVLVALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                  ERSPRWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGP
                                                                                                                                                                                                                                                                                                                                   ERSPRWPEGACROPGALOGEMSALFAOKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGP 1168
                                                                                                                                                                                                                                                                                                                                                                                     RQQPRARADSLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIP
                                                                                                                                                                                                                                                                                                                                                                                                                 RQQPRARADSLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIP 1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                VAEKSPVRVRPPRVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAI 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VAEKSPVRVRPPRVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAI 1048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PTKSQKPGRRGFPELVLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGPGSGSPRGKAPAA 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PTKSQKPGRRGFPELVLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGPGSGSPRGKAPAA 988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ENPTWEETLVEMVHMPEIALVRELVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEGMEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FNPTWEETLVFMVHMPETALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEGMEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYYLKPGCMCQGVFNPNSEDPL 748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GRLYVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKY
                                                                                                    (first entry)
                                                                  enzyme,
                                                                  LMM-6
                                                                                                                                                                   Ā
          disorder; cancer; nootropic;
                                                                                                                                                                                                                                                                                                                                                                                   1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        660
```

Homo sapiens. cytostatic; enzyme. WO200216597-A2 neuroprotective

22-AUG-2001; 2001WO-US26365

B Q рЬ δÃ 맑 δÃ Qy В Š Ъ ρy

밁 Qy

멍

밁 Ş

```
Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                              ğ
                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                       밁
                                                                                                                                                                                   Ş
                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                              밁
Š
                                밁
                                                            Ş
                                                                                           밁
                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23-AUG-2000;
08-SEP-2000;
15-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    polynucleotides equences encoding them. The LMM polypeptides, polynucleotides, agonists and antagonists are useful for diagnosing, polynucleotides, agonists and antagonists are useful for diagnosing, particularly immune system disorders (e.g. acquired immunodeficiency syndrome (ALDS), thymic hypoplasia, anaemia, asthma or Crohn's disease), neurological disorders (e.g. epilepsy, Huntington's disease, dementia or Parkinson's disease), developmental disorders (e.g. bown's syndrome) or cell proliferative disorders (e.g. cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma or sarcoma). The present sequence represents human LMM-6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Griffin JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present invention relates to the isolation of human lipid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 50; Page 113-117; 122pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New lipid metabolism enzymes, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Walia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               metabolism enzymes (LMM) designated LMM-1 to LMM-6, and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (e.g. cancers)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       473
                                                                                                                                                                                                                                                                                                                169
   415
                                                                                                                          295
                                                                                                                                                         760
                                                                                                                                                                                      235
                                                                                                                                                                                                                     700
                                                                                                                                                                                                                                                 208
                                                                                                                                                                                                                                                                                640
                                                                                                                                                                                                                                                                                                                                                                           128
                                                                                                                                                                                                                                                                                                                                                                                                                                        89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LRGVAVPP------LTAVSLPCPVERCMGAMQEGMQMVKLRGGSKGLVRFYYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LPGPALPPEDPGPDPESRWLFLSANILPV-VERCMGAMQEGMQMVKLRGGSKGLVRFYYL 67
                                                                                                                                                                                                                                                                                                                                                                                                                         DEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSHRE 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2002-280936/32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NK,
                                                                                                           LLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDM 354
                                                                                                                                                                                                                                                                                                                                                             QMFR-----EADTDDHQGTLGFEEFCAFYKMM 234
                                                                                                                                                                                                                                                                                PWGGLSFAGSHTGEVAGQRVEWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVK 699
                                                                                                                                                                                                                                                                                                                                            SLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQYPWAPIGQCRPRDRPLGCS
                                                                                                                                                                                                                                                                                                                                                                                                         DEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSHRE
 IENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANIS
                                YAWYLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILS
                                                                                            LLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDM
                                                                                                                                                         STRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCODIIEQFEPCPENKSKG
                                                                                                                                                                                      STRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKG
                                                                                                                                                                                                                     QMFRVAGHAWLEQGKLACSQDRALVEVPMGTQGLALQEADTDDHQGTLGFEEFCAFYKMM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   973;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INCYTE GENOMICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABK12390.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hafalia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1619 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; 2000US-227429P.
; 2000US-231370P.
; 2000US-233212P.
; 2000US-236885P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Patterson C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AJA,
                                                                                                                                                                                                                                                                                                               ------WLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVK 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              77.5%;
84.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gandhi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 4941;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches 14; Indels 166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AR, Lu Y, Ya
Tribouley CM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yao MG, E
CM, Das D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Baughn MR;
, Thornton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        X
..
                                                                                                                                                                                                                                                                                                                                               639
                                                                 414
                                                                                                879
                                                                                                                                                          819
                                                                                                                                                                                                                        759
                                                                                                                                                                                                                                                                                                                                                                              168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5.
```

07-JUL-2000; 07-JUL-2000;

2000US-216801P

06-JUL-2001; 2001WO-US21432

17-JAN-2002 WO200204490-A2

```
RESULT 3
ABB07493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                          뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1060
                                                                                                                                                                                                                                                                                                                                                                                                                           1540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1120
                                                                                                                                                             Lipid metabolism molecule; LMM; cytostatic; nootropic; neuroprotective; anticonvulsant; immunosuppressive; anti-inflammatory; dermatological; cardiovascular; antiHIV; antiemetic; antiallergic; hypertensive; human;
                                                                                                                                                                                                                                                                                                    ABB07493 standard; Protein; 621 AA.
                                                                                                                                                                                                                                                                                                                                                                       1600
                                                                                                                                                                                                                    Human lipid metabolism molecule (LMM) polypeptide (ID:
                                                                                                                                                                                                                                             23-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         940 IENHCSVIQQKKMAQYLTDIIGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANIS
                                                                                                                      Homo sapiens.
                                                                                                                                                cancer; gene therapy; protein therapy.
                                                                                                                                                                                                                                                                         ABB07493;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 756
                                                                                                                                                                                                                                                                                                                                                                                                996
                                                                                                                                                                                                                                                                                                                                                                                                                                                      936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNN 534
                                                                                                                                                                                                                                                                                                                                                                                                                        NAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYYLKPGCMCQGVFNPNSEDPLPGQLKKQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAGCOMVALNYQSEGRMLQLINRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQ 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAVCCGVAERRVSVVMRATVASLQQCGSIQGCGRSKAEEDVESGEDAGASRRNGRLVVGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FSVSTLSPSGKLGRKVEAKKVTPLMPTGPPDSQPVGQPGPPNRGSVQAGPGPGWGERAAV 1119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FSVSTLSPSGKLGRK------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNN 1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TLVEMVHMPEIALVRELVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHV
                                                                                                                                                                                                                                                                                                                                                                      RVRPCVSWTAPGLLG 1614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKP
                                                                                                                                                                                                                                                                                                                                                                                                RVRPPRVLDGPGPAG 1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRTLRRTASAPTKSQKP
                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SKAEEDVESGEDAGASRRNGRLVVGS
                                                                                                                                                                                                                       2965233CD1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1299
                                                                                                                                                                                                                                                                                                                                                                                                                              1599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    815
```

```
Š
                                                                            망
                                                                                                        δõ
                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                   밁
            밁
                                                                                                                                             밁
                                                                                                                                                                           8
                                                                                                                                                                                                               Вр
                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                Db
                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention provides human lipid metabolism molecule (LMM) polypeptides C and polynucleotides. The LMM polypeptides can be expressed by standard CC recombinant methodology. The LMM polypeptides are useful for diagnosing C or treating a condition or disease associated with the expression of LMM. C or screening for compounds that specifically bind to or modulate the CC activity or expression of LMM. They are also used to generate antibodies are trivity or expression of LMM. They are also used to generate antibodies CC and assess the toxicity of test compounds. The LMM polypeptides, CC treating or preventing cancers (e.g. adenocarcinoma, leukemia, lymphoma, CC treating or preventing cancers (e.g. adenocarcinoma, leukemia, lymphoma, CC melanoma or sarcoma), neurological disorders (e.g. epilepsy, stroke, CC crebral neoplasms, Alzheimer's disease or Pick's disease, autoimune/CC linfiammatory disorders (e.g. ADS, Addison's disease, allergies, asthma, CC crebral tris, gastric carcinoma, anorexia or nausea), skin classophagits, gastritis, ezcema, or scleroderma), and cardiovascular disorders (e.g. hypertension, arterial dissections, vascular tumours, or thrombolveis). The present scenience represents a human raw carlyportide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14-JUL-2000;
21-JUL-2000;
26-JUL-2000;
04-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Yue H,
Elliott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; Page 112-113; 128pp; English.
                                                                             302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    thrombolysis).
                                                                                                                                                                               241
                                                                                                                                                                                                                182
                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                122
                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lipid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (INCY-)
                                                                                                                                                                                                                                                                                                                                                   62
                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                   N
                                                                                                                                                                                                                                                                                                                                                                                                                            1 MAPPTAGPLPGPALPPEDPGPDPESRWLFLSANILPVVERCMGAMQEGMOMVKLRGGSKG 60
                                                                                                                                                      YLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGIDG
AGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCS
                       AGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCS
                                                                 FTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQ
                                                                                      FTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQ
                                                                                                                                                                                                                         GDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDL 240
                                                                                                                                                                                                    GDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDL
                                                                                                                                                                                                                                                                       YHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKN 180
                                                                                                                                    YLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGIDG
                                                                                                                                                                                                                                                                                                                                       LVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSI
                                                                                                                                                                                                                                                                                                                                                          LVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSI 120
                                                                                                                                                                                                                                                                                                                                                                                                          MAPPTAGPLPGPALPPEDPGPDPESRWLFLSANILPVVERCMGAMQEGMQMVKLRGGSKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   614;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               metabolism molecules useful in diagnosing, treating or preventing rs, and neurological, autoimmune/inflammatory, gastrointestinal, and cardiovascular disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2002-164631/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABA94696.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gandhi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Azimzai Y, Lu.
--dhi AR, Walia N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    621 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; 2000US-218233P.
; 2000US-220046P.
; 2000US-220739P.
; 2000US-222824P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence represents a human LMM polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               50.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ω
'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 3225; DB 23;
Pred. No. 1.2e-241;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Thornton M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Thornton M, Lu DAM,
Khan FA, Lu Y, Yac
P, Ramkumar J, Ngu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Yao MG, Ha
Nguyen DB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tribouley CM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               621;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hafalia AJA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Baugn MR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
 421
                                                                   361
                                                                                                                                    301
                                                                                                                                                                      300
                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
```

```
PXAX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
         The invention relates to human lipid metabolism enzymes (LMES) and encoding polynucleotides. The LMES can be expressed by standard recombinant technology. The LME polypeptides, polynucleotides and modulators may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate LME expression such as cancer (e.g. myeloma, sarcoma and breast cancer), neurological disorders (e.g. erskinson's, Alzheimer's and multiple sclerosis), microbial infections (e.g. Creutzfeld-Jakob disease and Acquired Immune deficiency syndrome (AIDS)) and/or cardiovascular disorders (e.g. cardiomyopathy, angina pectoris and mitral valve prolapse). The present sequence represents the human LME-1 polypeptide.
                                                                                                                                                                                                                     Lipid Metabolism Enzymes and nucleic acids, useful for preventing, diagnosing and treating e.g. cancer, Alzheimer's disease and Creutzfeld-Jakob disease -
                                                                                                                                                                                                                                                                                                                                                                                                                        06-OCT-2000; 2000US-238388P.
13-OCT-2000; 2000US-249615P.
02-NOV-2000; 2000US-245719P.
08-NOV-2000; 2000US-247503P.
17-NOV-2000; 2000US-249503P.
                                                                                                                                                                                           Claim 1; Page 110-113; 127pp; English.
                                                                                                                                                                                                                                                                                        N-PSDB; ABL60537.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; lipid metabolism enzyme; LME; cytostatic; neuroprotective; nootropic; cerebroprotective; antiparkinsonian; antialzheimers; v antisclerotic; antimicrobial; anti-AIDS; cardiovascular; antiangi
                                                                                                                                                                                                                                                                                                                                                                                              (INCY-) INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     05-OCT-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gene therapy; protein therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27-AUG-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABB08001 standard; Protein; 1014 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11-APR-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABB08001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421 VIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         422
                                                                                                                                                                                                                                                                                                     2002-315862/35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SPGGQSRGATRQKSSVPSTR 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SPGGQSRGATRQKKTMKLSR 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTL
                                                                                                                                                                                                                                                                                                                                                     NK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEG
                                                                                                                                                                                                                                                                                                                                                             1 L,
                                                                                                                                                                                                                                                                                                                                   Tribouley CM;
                                                                                                                                                                                                                                                                                                                                                     Yao MG,
                                                                                                                                                                                                                                                                                                                                                                Arvizu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             metabolism enzyme (LME)-1 (Id: 7472210CD1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2001WO-US31302
                                                                                                                                                                                                                                                                                                                                                     Ļ
                                                                                                                                                                                                                                                                                                                                                 Das
Y,
                                                                                                                                                                                                                                                                                                                                           D, Griffin JA, Baughn
Elliott VS, Thangavelu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        enzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cardiovascular; antianginal;
                                                                                                                                                                                                                                                                                                                                              κ, ¥
                                                                                                                                                                                                                                                                                                                                             Ramkumar
                                                                                                                                                                                                                                                                                                                                                             Ding
                                                                                                                                                                                                                                                                                                                                             ij,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                vaccine;
                                                                                (e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
```

```
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                              δÃ
                                                                                                                                                                                                                             γ
                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₽.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                  밁
                                                                                                                                                                                                  밁
                                                                  밁
                                                                                            QΥ
                            Š
 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 607;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       149
                                                                                                                                                                                                                                                                                                                                                                                                          554
                                                                                                                                                                                                                                                                                                                                                                                                                                            565
                                                                                                                                                                                                                                                                      672
                                                                                                                                                                                                                                                                                                                                          613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MAGYTLESCODITEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPL 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LMAGISDEDSLARRORTRDOWLKOTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRORVKQ 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QVESFIRKKLESLLKESQIRDKEDPDSFTVRALLKATHEGLNAHLKQSPDVKESGK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CKQLPSPQSLKGKILVKGKKLPYHLGDDAEEGEVSDEDSADEIEDECKFKLHYSNGTTEH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTLPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKL-LNGDASTNRK 507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CNYYIASSHNTYLTGDQLLSQSKVDMYARVLQEGCRCVEVDCWDGPDGEPVVHHGYTLTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MFQEADTDENQGTLTFEEFCVFYKMMSLRRDLYLLLLSYSDKKDHLTVEELAQFLKVEQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     {\tt LMAGISDEDSLAKRQRTHDQWVKQTFEEADKNGDGLLNIEEIHQLMHKLNVNLPRRKVRQ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWYTGLRY 148
                                                                                                                                                                                                                                                                                                                                                                      LSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSS
                                                                                                                                                                                                                                                                                                                                                                                                          -KSHGRSLMTNFGKHKKTTKSRSKSYSTDDEEDTQQSTGKEGGQLYRLGRRKTMKLCRE
                                                                                                                                                                                                                                                                                                                                                                                                                                        SRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDS---PGGQSRGATRQKKTMKLSRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKS--KAEEDV-ESGEDAGA 564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSED 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MNNVTTDYCLDIIKKFEVSEENKVKNVLGIEGFTNFMRSPACDIFNPLHHEVYQDMDQPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MFREADTDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQK 268
                                                                                                                                                    RVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHV 861
                                                                                                                                                                                                                                  PNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQT 801
                                                                                                                                                                                                                                                                                    YRVDSSNYNDQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFN 741
SSENNS--HYVRKRSIGDRILRRTASAPAKGRKKSKMGFQEMV-EIKDSVSEATRD 964
                                SLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVAD 957
                                                                                                  YLEGMEEASIFVHVAVSDISG-----
                                                                                                                                                                                                    PFSGDPLPANPKKQLILKVISGQQLPKPPDSMFGDRGEIIDPFVEVEIIGLPVDCCKDQT
                                                                                                                                                                                                                                                                        YRIDSSNENPLPYWNAGCQLVALNYQSEGRMMQLNRAKEKANGNCGYVLKPQQMCKGTEN
                                                                                                                                                                                                                                                                                                                                        LSDLVVYTNSVAAQDI-VDDGTTGNVLSFSETRAHQVVQQKSEQFMIYNQKQLTRIYPSA
                                                                  YLEGLTEASIFVHITINEIYGKWSPLILNPSYTILHFLGATKNRQLQGLKGLFNKNPRHS 911
                                                                                                                                  RVVDDNGFNPVWEETLTFTVHMPEIALVRFLVWDHDPIGRDFVGQRTVTFSSLVPGYRHV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1014 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               49.6%; Score 316
63.5%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 3163; DB 23; Pred. No. 1.7e-236;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches 172;
                                                                                                   -----KVKQALGLKGLFLRGPKPG 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1014;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        377
                                                                                                                                                                                                                                                                                                                                               671
                                                                                                                                                                                                                                                                                                                                                                                                               612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ٥
```

```
ABG13669 standard; Protein; 787 AA.
                                                                                                                                                                                                                           31-MAR-2000;
23-AUG-2000;
                                                                                                                                                                                                                                             30-MAR-2001; 2001WO-US08631
                                                                                                                                                                                                                                                        11-OCT-2001
                                                                                                                                                                                                                                                                    WO200175067-A2
                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                                                                                          food supplement;
                                                                                                                                                                                                                                                                                                 Human; chromosome mapping;
                                                                                                                                                                                                                                                                                                           Novel human diagnostic protein #13660
                                                                                                                                                                                                                                                                                                                        18-FEB-2002
                                                                                                                                                                                   N-PSDB; AAS77856.
                                                                                                                                                                                                     Drmanac RT, Liu C,
                                                                                                                                          Claim 20; SEQ ID No 44028; 103pp; English.
                                                                                                                                                                                                                (HYSE-) HYSEQ INC.
                                                                                                                                                                                         2001-639362/73.
                                                                                                                                                                                                                           2000US-0540217
2000US-0649167
                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                           medical imaging;
                                                                                                                                                                                                                                                                                           gene mapping; gene therapy; forension
maging; diagnostic; genetic disorder
```

New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess biodiversity -

CC polymerase chain reaction (PCR) primers, oligoners, and for chromosome CC and gene mapping, and in recombinant production of (II). The CC and gene mapping, and in recombinant production of (II). The CC and gene mapping, and in recombinant production of (II). The CC in identifying expressed genes. (I) is useful in gene therapy techniques CC for identifying expressed genes. (I) is useful in gene therapy techniques CC (II). (II) is useful for generating antibodies against it, detecting or CC quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical CC imaging of sites expressing (II). (I) and (II) are useful for treating CC disorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in CC diagnostics, forensics, gene mapping, identification of mutations or responsible for genetic disorders or other traits to assess biodiversity amino acid sequences of the invention.

CC and to produce other types of data and products dependent on DNA and camino acid sequences of the invention.

CC diagnostic amino acid sequences of the invention.

CC and to produce data for this patent did not appear in the printed can polynomial intervention.

CC art for who intervention of contact directly from WIPO art for which is a patent did not appear in the printed can be producted and in electronic format directly from WIPO art for which is a patent of the contact of the printed can be producted by the contact of the printed can be producted by the contact of the printed can be producted by the contact of the printed can be printed by the contact of the printed can be printed by the contact of the printed can be printed by the contact of the printed can be printed to the printed can be printed by the contact of the printed can be printed to the printed can be The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes. ftp.wipo.int/pub/published_pct_sequences.

Sequence 787 AA;

```
В
                        Ş,
                                                                                 Query Match
                  239 DLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGI 298
                                                                      Local
Similarity
                                                      36.7%; Score 2343; DB 22; ilarity 61.4%; Pred. No. 6.4e-173; Conservative 107; Mismatches 145;
                                                          Indels 36;
                                                                                     Length
                                                          Gaps
```

밁 QΥ 5 EGFTNFMRSPACDIFNPLHHEVYQDMDQPLCNYYIASSHNTYLTGDQLLSQSKVDMYARV 120 DGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWV 358

Ωy 359 LQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENH 418

RESULT 5 ABG13669

```
RESULT 6
AAE14673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                            cns disorder; Parkinson's disease; dementia; COPD; protein therapy; chronic obstructive pulmonary disease; gene therapy; vaccine.
žhu Z;
                                                                                                                                                           04-APR-2002
                                                                                                                                                                                              0200226996-A2
                                                                                                                                                                                                                                                                                                     duman; phosphatidylinositol-specific phospholipase C-like enzyme; phospholipase C-like enzyme; chromosome 3; asthma; cancer; central nervous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAE14673 standard; Protein;
                                       FARB ) BAYER AG
                                                                                                                                                                                                                                   iomo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                             26-JUL-2002 (first entry)
                                                                            7-SEP-2000; 2000US-235552P
                                                                                                             4-SEP-2001; 2001WO-EP11012
                                                                                                                                                                                                                                                                                                                                                             uman phosphatidylinositol-specific phospholipase C-like enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      713 GRKKSKMGFQEMV-EIKDSVSEATRD 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SQKPGRRGFPELVLGTRDTGSKGVAD 957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SYTILHFLGATKNRQLQGLKGLFNKNPRHSSSENNS--HYVRKRSIGDRILRRTASAPAK 712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----KVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTK 931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LVWDHDPIGRDFVGQRTVTFSSLVPGYRHVYLEGLTEASIFVHITINEIYGKWSPLILNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVWDHDPIGRDFIGQRTLAFSSMMPGYRHYYLEGMEEASIFVHVAVSDISG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SMLGDRGEIIDPFVEVEIIGLFVDCSREQTRVVDDNGFNFTWEETLVFMVHMPEIALVRF 831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            {\tt MMQLNRAKFKANGNCGYVLKPQQMCKGTFNPFSGDPLPANPKKQLILKVISGQQLPKPPD}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SMFGDRGEIIDPFVEVEIIGLPVDCCKDQTRVVDDNGFNPVWEETLTFTVHMPEIALVRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MIQINRAKFSANGGCGYYLKPGCMCQGYFNPNSEDPLPGQLKKQLYLRIISGQQLPKPRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ETRAHQVVQQKSEQFMIYNQKQLTRIYPSAYRIDSSNFNPLPYWNAGCQLVALNYQSEGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ETKAHQILQOKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGR 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EEDTQQSTGKEGGQLYRLGRRRKTMKLCRELSDLVVYTNSVAAQDI-VDDGTTGNVLSFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GDEGQDS---PGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFS 651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RALLKATHEGLNAHLKQSPDVKESGK-----KSHGRSLMTNFGKHKKTTKSRSKSYSTDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STLSPSGKLGRKS--KAEEDV-ESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEE 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EGEVSDEDSADEIEDECKFKLHYSNGTTEHQVESFIRKKLESLLKESQIRDKEDPDSFTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EGEVSDEDSADEIDDDCKL-LNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CSIQQQRKIAQYLKGIFGDKLDLSSYDTGECKQLPSPQSLKGKILVKGKKLPYHLGDDAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CSVIOQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             787
                                                                                                                                                                                                                                                                                                       cancer; central nervous system;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
```

Matches Query Match

458;

Conservative 107; Mismatches 145;

Indels Length 787;

36;

9;

36.7%; Score 2343; DB 23; 61.4%; Pred. No. 6.4e-173;

Local

Similarity

```
treatment of diseases associated with enzyme dysfunction,
C e.g. asthma, cancer, central nervous system (CNS) disorder (e.g.
CC Parkinson's disease, dementia) and chronic obstructive pulmonary disease
CC (COPD). The polynucleotide and polypeptide may be used to treat
CC disorders associated with decreased PI-PLC-like enzyme expression by
CC rectifying mutations or deletions in a patient's genome that affect the
CC activity of PI-PLC-like enzymes, by expressing inactive proteins or to
CC supplement the patients own production of PI-PLC-like enzymes.
CC The polynucleotide and its complements may also be used
CC as DNA probes in diagnostic assays to detect and quantitate the
CC may also be used as antigens in the production of antibodies
CC and in assays to identify modulators of PI-PLC-like enzymes
CC and in assays to identify modulators of PI-PLC-like enzyme
CC antagonists may be used to down-regulate expression and activity of
CC the enzyme and as diagnostic agents for detecting the presence of
CC pI-PLC-like enzyme in samples. The present sequence is human
CC phosphatidylinositol-specific phospholipase C-like enzyme.
  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to polynucleotide encoding human phosphatidylinositol-specific phospholipase C-like enzyme (PI-PLC-like enzyme). Human PI-PLC-like enzyme gene is loc chromosome 3. The PI-PLC-like enzyme polynucleotide may be used in the prevention, diagnosis are polynucleotide may be used in the prevention, diagnosis are prevention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 25; Fig 2; 125pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Isolated polynucleotides encoding human phosphatidylinositol-specific phospholipase C-like enzymes, useful for preventing, diagnosing and treating e.g. asthma, cancer, a CNS disorder or chronic obstructive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pulmonary disease -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2002-372128/40.
N-PSDB; AAD31081.
787 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    diagnosis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       is located
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
```

```
δÃ
                                                     밁
                                                                                                                                                                   δÃ
                                                                                                                                                                                                          Ъ
                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                           ğ
                                                                                                                                                                                                                                                                                                                            γQ
                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
712 MIQINRAKFSANGGCGYYLKPGCMCQGYFNPNSEDPLPGQLKKQIYLRIISGQQLPKPRD
                                                   415
                                                                                                                                  356
                                                                                                                                                                     595
                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                    538
                                                                                                                                                                                                                                                                                                                                479
                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                           419
                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                          359 LQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENH 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             299 DGFTNYTRSPAGDIFNPEHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWV 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  239 DLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 DLYLLLLSYSDKKDHLTVEELAQFLKVEQKMNNVTTDYCLDIIKKFEVSEENKVKNVLGI 60
                                     ETRAHQVVQQKSEQFMIYNQKQLTRIYPSAYRIDSSNFNPLPYWNAGCQLVALNYQSEGR
                                                              ETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGR
                                                                                                                   EEDTQQSTGKEGGQLYRLGRRRKTMKLCRELSDLVVYTNSVAAQDI-VDDGTTGNVLSFS
                                                                                                                                                         GDEGQDS----PGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFS
                                                                                                                                                                                                RALLKATHEGLNAHLKQSPDVKESGK-----KSHGRSLMTNFGKHKKTTKSRSKSYSTDD
                                                                                                                                                                                                                                     STLSPSGKLGRKS--KAEEDV-ESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEE
                                                                                                                                                                                                                                                                             EGEVSDEDSADEIEDECKFKLHYSNGTTEHQVESFIRKKLESLLKESQIRDKEDPDSFTV
                                                                                                                                                                                                                                                                                                                EGEVSDEDSADEIDDDCKL-LNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSV
                                                                                                                                                                                                                                                                                                                                                       CSIQQQRKIAQYLKGIFGDKLDLSSVDTGECKQLPSPQSLKGKILVKGKKLPYHLGDDAE
                                                                                                                                                                                                                                                                                                                                                                                            CSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAE
                                                                                                                                                                                                                                                                                                                                                                                                                                    LQEGCRCVEVDCWDGPDGEPVVHHGYTLTSKILFRDVVETINKHAFVKNEFPVILSIENH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EGFTNFMRSPACDIFNPLHHEVYQDMDQPLCNYYIASSHNTYLTGDQLLSQSKVDMYARV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                478
                                                                                                                                                                                                                                                                                                                                                         240
```

20;

```
RESULT 7
AAO17367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₽
The present invention relates to a method for the in vitro diagnosis of endometriosis by determining the amount of gene product from at least one specific gene in a patient sample and comparing this with the amount of gene product in a control sample. A reduced level is indicative of endometriosis. The gene products may be fibronectin, p27, reticulocalbin, aldehyde dehydrogenase 6, gravin, phospholipase C epsilon, elastin, insulin-like growth factor binding protein-2, alpha-2 type IV collagen) transmembrane receptor PTK7, collagen type XVIII alpha 1, platelet derived growth factor receptor alpha, laminin M chain, subtilisin like protein PACE4 or nidogen. The method is useful for initial diagnosis of endometriosis, and also for monitoring progress and treatment of the disease. The present sequence is human phospholipase C considers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; endometriosis; DNA chip; fibronectin; p27; reticulocalbin; aldehyde dehydrogenase 6; gravin; phospholipase C epsilon; elastin; insulin-like growth factor binding protein-2; alpha-2 type IV collagen; transmembrane receptor PTK7; collagen type XVIII alpha 1; platelet derived growth factor receptor alpha; laminin M chain; platelet derived growth factor receptor alpha; laminin M chain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human phospholipase C epsilon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAO17367 standard;
                                                                                                                                                                                                                                                                                                                             WPI;
                                                                                                                                                                                                                                                                                                                                                            Hess-stumpp H, Haend Regidor P, Scotti S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     subtilisin like protein PACE4; nidogen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19-JUL-2002
                                                                                                                                                                                                                               Claim 1;
                                                                                                                                                                                                                                                                           detecting reduced
                                                                                                                                                                                                                                                                             In vitro diagnosis and monitoring of endometriosis, comprises detecting reduced expression of specific gene products, e.g.
                                                                                                                                                                                                                                                                                                                                                                                                          (SCHD ) SCHERING AG.
                                                                                                                                                                                                                                                                                                                                                                                                                                         25-SEP-2000; 2000DE-1048633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21-AUG-2001; 2001EP-0250300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-MAR-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EP1191107-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HOMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GRKKSKMGFQEMV-EIKDSVSEATRD 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEIALVRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SYTILHFLGATKNRQLQGLKGLENKNPRHSSSENNS--HYVRKRSIGDRILRRTASAPAK 712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LVWDHDPIGRDFVGQRTVTFSSLVPGYRHVYLEGLTEASIFVHITINEIYGKWSPLILNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOKPGRRGFPELVLGTRDTGSKGVAD 957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----KYKQALGLKGLELRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTK 931
                                                                                                                                                                                                                             Page 20-21; 21pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                           Haendler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein;
                                                                                                                                                                                                                               German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           997
                                                                                                                                                                                                                                                                                                                                                                               Kraetzschmar J,
                                                                                                                                                                                                                                                                                                                                                                                Kreft
                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                               e.g. from
                                                                                                                                                                                                                                                                                                                                                                                Winterhager
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          534
                                                                                                                                                                                                                                                                                                                                                                                Ħ
```

```
...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sox
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Βb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                 밁
                                                                                             Š
                                                                                                                                 밁
                                                                                                                                                               δÃ
                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                      Вþ
                              ρ
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 348;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     157
                                                                                                                                                                                                                                                                                                                                                                                                         470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          462
                                                                                                                                                                                                      618
                                                                                                                                                                                                                                                                                                                                       498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    41 CMGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKN-EKAKISIDSIQEVSEGR
796 LREAIDMRENMQNAIVSIKELCGLPPI-ASLKQCLLTLSSRLITSDNTPSVSLVMKDSFP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QSEVFQRYPDGSFD---PNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CISFMQAGCELKKVRPNSRIYNRFFTLDTDLQALRWEPSKKDLEKAKLDISAIKEIRLGK 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KSKEKLTTRVTEEEFCEAFCELCTRPEVYFLLVQISKNKEYLDANDLMLFLEAEQGVTHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LDFMEGNQNTPRFMWLKTVFEAADVDGNGIMLEDTSVELIKQLNPTLKEAKIRLKFKEIQ 190
                                                                                                                                                                                                                                                                                                                                                                                                                                       VGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSV 632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PSPQMLKGKKLVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TLESCODIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYF 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TDDHQGT--LGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQYEQKMAGV 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NTETFTN--NGLADQICEDCAFSILHGENYESLDLVANSADVANIWVSGLRYLVSRSKQP
                                                                                                                                                                                                                                                                                             PQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGV--FNPNSEDPL
                                                                                                                                                                                                                                                                                                                                       QYRDFELSMKSQNYWEMCSFSETEASRIANEYPEDFVNYNKKFLSRIYPSAMRIDSSNLN
                                                                                                                                                                                                                                                                                                                                                                   ATHDIE--MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLV 572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PSPEKLKRMIIVKGKKLPSD--PDVLEGEVTDED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RSVIEVINKFAFVASEYPLILCLGNHCSLPQQKVMAQQMKKVFGNKL-YTEAPLPSESYL 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTL 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             {\tt INASHNTYLIEDQFRGPADINGYIRALKMGCRSVELDVSDGSDNEPILCNRNNMTTHVSF}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TEDICLDIIRRYELSEEGRQKGFLAIDGFTQYLLSSECDIFDPEQKKVAQDMTQPLSHYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -DSLARRORT-RDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD
                                   KPGSLD---
                                                                 DIMEHVTLFVHIAITNRSGGGKAQKRSLSVRMGKKVREYTMLRNIGLKTIDDIFKIAVHP
                                                                                                 --MEEASIFVHVAVSDISG-----
                                                                                                                                      DNPIFDETFEFQVNLPELAMIRFVVLDDDYIGDEFIGQYTIPFECLQPGYRHVPLRSFVG
                                                                                                                                                                  FNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEG---
                                                                                                                                                                                                      PGVSPLALHIKIISGQNFPKPKGACA -- KGDVIDPYVCIEIHGIPADCSEQRTKTVQQNS
                                                                                                                                                                                                                                    PGQLKKQLVLRI1SGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNG
                                                                                                                                                                                                                                                                       PQDFWNCGCQIVAMNFQTPGPMMDLHTGWFLQNGGCGYVLRPSIMRDEVSYFSANTKGIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ------EEAQMSRR----
                                                                                                                                                                                                                                                                                                                                                                                                         -----QKQIRLCRELSDLVSICKSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23.98;
                                   ----SHAAGRPPARPSVSQRILRRTASAPTKSQKPG-----RRGFP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        158; Mismatches 279;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. 4.1e-109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 1524.5;
                                                                                                   DB 23; Length 997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels 177;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  370
                                        941
                                                                                                                                                                                                                                                                                                             748
                                                                                                                                                                                                                                                                                                                                            557
                                                                                                                                                                                                                                                                                                                                                                           690
                                                                                                                                                                                                                                                                                                                                                                                                              497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               461
       854
                                                                      795
                                                                                                      898
                                                                                                                                        735
                                                                                                                                                                        865
                                                                                                                                                                                                         675
                                                                                                                                                                                                                                           808
                                                                                                                                                                                                                                                                           617
```

Ş

942 EL 943

B

855

ΥL

856

```
Qy
                                                                                                         В
                                                                                                                               Qy
                                                                                                                                                         뭥
                                                                                                                                                                                                                                                                                                           밁
                             δÃ
                                                         밁
                                                                                                                                                                                ρy
                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                               Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 8
                                                                                                                                                                                                                                                          Best Loc
Matches
                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                    This sequence is a 130 kD protein capable of binding inositol-1,4,5-triphosphate (IP-3). The protein has approx. 38.2 percent homology with phospholipase C-delta 1 (PLC-delta 1). The DNA (AAT58225) encoding it, is important for the creation of drugs and diagnostic agents for various diseases, e.g. circulatory organ, inflammatory and nerve diseases,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Structural gene encoding protein capable of binding with inositol-1,4,5-tri:phosphate - useful for creation of dru
                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                nalignant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31-MAR-1995;
                                 273
                                                                                                                                   157
                                                                                                                                                          172
                                                                                                                                                                                                           112
                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 2; Page 6-11; 13pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                diseases,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (HIRA/) HIRATA M.
(MITK ) MITSUI TOATSU CHEM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31-MAR-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JP08266283-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus sp.
                                                          290
                                                                                                                                                                                   100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IP-3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Inositol-1,4,5-triphosphate binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-MAR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAW01596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW01596 standard; Protein;
                                                                                                                                                                                                                 41 CMGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKN-EKAKISIDSIQEVSEGR
                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                  lagnostics for, e.g. circulatory organ diseases, inflammatory
TEDMCLDIIRRYELSEDGRQKGFLAIDGFTQYLLSPECDIFDPEQKKVAQDMTQPLSHYY
            TLESCODIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYF
                                                 KSKEKLTTRVTEEEFCEAFCELCTRPEVYFLLVQISKNKEYLDANDLMLFLEVEQGVTHV
                                                                                                                                                  NTETERN--NGLADQICEDCAFSILHGENYESLDLVANSADVANIWVSGLRYLVSRSKQP
                                                                                                                                                                                                  CISFMQAGCELKKVRPNSRIYNRFFTLDTDLQALRWEPSKKDLEKAKLDISAIKEIRLGK 171
                                                                                                 LDFMEGNQNTPREMWLKTVFEAADVDGNGIMLEDTSVELIKQLNPTLKESKIRLKFKEIQ
                                                               QSEVFQRYPDGSFD---PNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDE 156
                                                                                                                        -DSLARRORT-RDOWLKOTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1996-512670/51.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 inositol-1,4,5-triphosphate; phospholipase C-delta 1;
testing; screening; diagnostic; cancer; inflammatory d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      testing;
                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAT58225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        circulatory organ disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                               etc.
                                                                                                                                                                                                                                                                                                                                 tumours and cancers
                                                                                                                                                                                                                                                                                                         1096 AA;
                                                                                                                                                                                                                                                         Conservative 161;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95JP-0075876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95JP-0075876
                                                                                                                                                                                                                                                                  23.8%;
                                                                                                                                                                                                                                                     Score 1517; DB 17;
Pred. No. 1.8e-108;
1; Mismatches 278;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein
                                                                                                                                                                                                                                                     Indels 180;
                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  drugs and
                                                                                                                                                                                                                                                                              1096;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 disease;
                                                                                                                                                                                                                                                  Gaps
 409
                                                  349
                                                                           272
                                                                                                  289
                                                                                                                           214
                                                                                                                                                    229
                                                                                                                                                                                                                            99
                                                                                                                                                                                                                                                    22;
```

2

13-MAR-2000; 2000US-0188885 13-MAR-2001; 2001WO-US07994.

20-SEP-2001 WO200168871-A2 Homo sapiens. gene therapy. drug

screening; biological disorder;

mental disorder; medical

disorder;

```
οy
RESULT 9
                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                         QV
                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밓
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                      Human; novel human protein; NHP; phospholipase protein; phospholipid; phospholipase C delta-4; cell activation; signal transduction; cancer
                                                                                                                                                                             Novel human phospholipase protein
                                                                                                                                                                                                        10-DEC-2001
                                                                                                                                                                                                                                 AAE10440;
                                                                                                                                                                                                                                                       AAE10440 standard; Protein;
                                                                                                                                                                                                                                                                                                                     953
                                                                                                                                                                                                                                                                                                                                          941
                                                                                                                                                                                                                                                                                                                                                                  894
                                                                                                                                                                                                                                                                                                                                                                                          868
                                                                                                                                                                                                                                                                                                                                                                                                                 834
                                                                                                                                                                                                                                                                                                                                                                                                                                        966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VPGVSPLLLHIKIISGQNFPKPKGACA--KGDVIDPYVCVEIHGIPADCSEQRTKTVQQN
                                                                                                                                                                                                                                                                                                                  PYLEPLGT
                                                                                                                                                                                                                                                                                                                                          PEL-VLGT 947
                                                                                                                                                                                                                                                                                                                                                           PLREAIDMRENMQNAIVSVKELCGLPPI-ASLKQCLLTLSSRLITSDSTPSVSLVMKDCF
                                                                                                                                                                                                                                                                                                                                                                                 PKPGSLD-----SHAAGRPPARPSVSQRILRRTASAPTKSQKPG-----RRGF
                                                                                                                                                                                                                                                                                                                                                                                                         GDIMEHVTLFVHIAITNRSGGGKAQKRSLSVRMGKKVREYTMLRNIGLKTIDDIFKIAVH
                                                                                                                                                                                                                                                                                                                                                                                                                                       ---MEEASIFVHVAVSDISG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                          SDNPIFDETFEFQVNLPELTMVRFVILDDDYIGDEFIGQYTIPFECLQPGYRHVPLRSFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GFNPTWEETLVEMVHMPEIALVRELVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NPQDFWNCGCQIVAMNFQTPGPMMDLHTGWFLQNGGCGYVLRPSIMRDEVSYFSANTKGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VATHDIE--MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NPQPFWNAGCOMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGV--FNPNSEDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VQYRDFELSMKTQNYWEICSFSETLASRIANEYPEDFVNYNKKFLSRVYPSAMRIDSSNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 \tt INASHNTYLIEDQFRGPADINGYVRALKMGCRSIELDVSDGPDNEPILCNRNNMAMLLSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LPSPEKLKHMIIVKGKKLPS--ESDLLEGEVTDED-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVEN 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RSVLEVINKFAFVASEYPLILCLGNHCSLPQQRVMVQQMKKVFGNKLYTEAPLSSE--SY 527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VSGDYN----
                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                  960
                                                                                                                                                                                                                                                       762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----EEAEMSRR----
                                                                                                                                                                                                                                                       A
                                                                                                                                                                                #7
                                                                                                                                                                                                                                                                                                                                                                                                                                  -KVKQALGLKGLFLR------G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --GEQKHIWLCRELSDLVSICKS
                                                                                                                                                                                                                                                                                                                                                                                   940
                                                                                                                                                                                                                                                                                                                                                                                                           893
                                                                                                                                                                                                                                                                                                                                                                                                                                   897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   560
```

15-MAR-2000; 2000US-0189693

```
Q
                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                     Ş
                                                                                   밁
                                                                                                                      δÃ
                                                                                                                                                                       밁
                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                    밁
멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              comprising NHP cDNA is useful for screening collections of genetic material from patients having a particular medical condition, which is used to identify mutations associated with a particular disease and also as diagnostic or prognostic assay. NHP nucleotide sequences are useful for drug screening. Nucleotide construct encoding NHP products are used in gene therapy for modulating NHP expression and to produce genetically engineered host cells to express NHP products in vivo. The NHP sequences are useful for generating antibodies, as reagents in diagnostic assays, for identifying other cellular gene products related to NHP and as reagents in assays for screening for compounds that are useful in the treatment of mental, biological or medical disorders and, diseases. They can be used to therapeutically augment the efficacy of chemotherapeutic agents used in the treatment of breast or prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present sequence is novel human protein (NHP), phospholipase protein, Phospholipases hydrolyse phospholipids and play a key role in the cell activation and signal transduction. NHPs share structural similarity with animal phospholipases, including phospholipase C delta-4. NHP oligonucleotides are useful in conjunction with polymerase chain reaction (PCR) to screen libraries, isolate clones, and prepare cloning and sequencing templates, and alternatively as hybridisation probes for screening libraries and alternatively as hybridisation patterns. They are used in the identification, selection and validation of novel molecular targets for drug discovery, where identification and characterisation of human genomic clones is helpful for identifying polymorphisms, determining the genomic structure of a given locus/allele and designing diagnostic tests. The microarray
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 11; Page 41-43; 45pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      diagnosis and in gene therapy of biological disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New polynucleotides encoding human phospholipase protein cell activation and signal transduction, useful for drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (LEXI-) LEXICON GENETICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                            191
                                                                                                                                                                                                                                                                                                            163
311
                                                                                                                                                                                                                    223
                                                                                                                                                                                                                                                                                                                                                                                                                                            18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      45
                                                                                                                                                                                                                                                                                                                                                      77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2001-582456/65.
                                                                                                                                                                                                                                                                                                          QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL
                                                                                                                                                                                                                                                                                                                                                                                                VFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR 162
                                                                                                                                                                                                                                                                                                                                                                                                                                            MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSE 102
GDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY
                                       GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY 402
                                                                                      RYEPSDSGKLRHVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV
                                                                                                                             QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV
                                                                                                                                                                            EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID
                                                                                                                                                                                                                 GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE
                                                                                                                                                                                                                                                                QERLDQWLSDWFQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTL
                                                                                                                                                                                                                                                                                                                                                      LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMD----H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   330;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nepomnichy B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Zambrowicz B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22.6%; Score 1441; DB 22; 38.3%; Pred. No. 8.5e-103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Donoho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sands AT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hilbun E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Turner CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       253;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Abuin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  screening,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       involved in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                 250
                                                                                                                                                                                                                                                                     190
```

```
망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 10
AAE14268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
Human phospholipase C delta 5 (PLCD5) protein #1.
                                                                                                                                                                                                                                                                                                                  Human; phospholipid C delta 5; PLCD5 protein; deep vein thrombosis; angina pectoris; percutane transluminal coronary angiography; PTCA; thrombo embolic insult; disseminated intravascular coagulation; arteriosclerosis; epilepsy; depression; neurodegenerative disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAE14268 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                            07-MAR-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         403
                           N-PSDB; AAD23721
                                            WPI; 2002-034515/04.
                                                                         Brandt S,
                                                                                                                                   29-APR-2000; 2000EP-0109318
                                                                                                                                                                  27-APR-2001; 2001WO-EP04784
                                                                                                                                                                                                08-NOV-2001
                                                                                                                                                                                                                             WO200183771-A2
                                                                                                                                                                                                                                                          Homo sapiens.
                                                                                                                                                                                                                                                                                       vaccine; gene therapy.
                                                                                                                                                                                                                                                                                                       stroke; rheumatoid arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        639 MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   699
                                                                                                     (MERE ) MERCK PATENT GMBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLKKQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVKGKKL--TLEEDL---EYEEEEASPELEE------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AFQTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPEELRRKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ESQFETEPEPQ----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMVAMNMQTAGLEMDICDGHFRQNGGCGYVLKPDFLRDIQSSFHP--EKPISPFKAQTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYNPQELWNAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKK 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IFVYICIQE---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IFVHVAVSDISGKVKQALGLKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LCFRVLVPELAMLREVVMDYDWKSRNDFIGQYTLPWTCMQQGYRHIHLLSKDGISLRPAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---EG--MEEAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LIQVISGQQLPKVDKT---KEGSIVDPLVKVQIFGVRLDTARQETNYVENNGFNPYWGQT
                                                                         Duecker K,
                                                                         Gleitz
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----EQNLQNKD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -LCPALSSLVIYLKSVSFRSFTH--S
                                                                                                                                                                                                                                                                                                       egenerative disease; chromosome localisation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----SELAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----KKKK 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                869
```

New phospholipase C delta 5

polypeptides, useful for treating deep vein

```
Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tiches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The patent discloses phospholipid C delta 5 (PLCD5) proteins and their corresponding polynucleotides. PLCD5 sequences are useful for treating deep vein thrombosis, instable angina pectoris, percutane transluminal coronary angiography (PTCA), thrombo embolic insult, disseminated intravascular coagulation, arteriosclerosis, epilepsy, depression, neurodegenerative diseases, stroke, rheumatoid arthritis and immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             disorders. PLCD5 sequences are also useful as vaccines for inducing immunological response in a mammal. PLCD5 DNAs are also useful for chromosome localisation studies, as valuable tools in tissue expression studies and in gene therapy. The present sequence is PLCD5 protein
                                                                                                                                                  699
                                                                                                                                                                                                       512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          thrombosis, instable angina pectoris, percutane transluminal coronary angiography, disseminated intravascular coagulation and epilepsy
                                            757
                                                                                                                                                                                                                                                         639
                                                                                                                                                                                                                                                                                                              485
                                                                                                                                                                                                                                                                                                                                                                                                                    462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 103 VFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; Page 38-39; 51pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18 MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       45 MOEGMOMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGROSE 102
CQMVAMNMQTAGLEMDICDGHFRQNGGCGYYLKPDFLRDIQSSFHP--EKPISPFKAQTL
                                                                                                                               CQMVALNYQSEGRMLQLNRAKFSANGGCGYYLKPGCM--CQGYFNPNSEDPLPGQLKKQL 756
                                                                                                                                                                                         KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYNPQELWNAG
                                                                                                                                                                                                                             MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG
                                                                                                                                                                                                                                                                                                              SKPI-
                                                                                                                                                                                                                                                                                                                                                  GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKK 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LVKGKKL--TLEEDL---EYEEREAEPELEE------SELAL 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIK 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AFIKNEYPVILSIENHCSVIQQKKMAQYLTDIIGDKLDLSSVSSEDATTLPSPQMLKGKI 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RYEPSDSGKLRHVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AFQTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPEELRRKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMD----H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QERLDQWLSDWFQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             330;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22.6%; Score 1441; DB 23; 38.3%; Pred. No. 8.5e-103;
                                                                                                                                                                                                                                                                                                                                                                                                            ------EQNLQNKD-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  No.
                                                                                                                                                                                                                                                                                                -LCPALSSLVIYLKSVSFRSFTH--S
                                                                                                                                                                                                                                                                                                                                                                                                      -----KKKK 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  134;
                                                                                                                                                                                                                                           698
                                                                                                                                                                                                                                                                                                                                                     638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20;
```

δÃ В

В Qy В Q В δõ

Ma

Q

밁 δÕ 밁 γ 밁 δÃ В Q 밁 Qy Db Q

Š 밁 οy 밁

Query Match
Best Local Similarity
Matches 343; Conser

Conservative

149;

Mismatches

Indels Length

140;

Gaps

22;

22.6%;

Score 1439; Pred. No. 1

9; DB 23; 1.4e-102;

Sequence

Ä

```
ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABB08008
                               diseases associated with inappropriate LME expression such as cancer (e.g. myeloma, sarcoma and breast cancer), neurological disorders (e.g. Parkinson's, Alzheimer's and multiple sclerosis), microbial infections (e.g. Creutzfeld-Jakob disease and Acquired Immune deficiency syndrome (AIDS)) and/or cardiovascular disorders (e.g. cardiomyopathy, angina pectoris and mitral valve prolapse). The present sequence represents
                                                                                                                   encoding polynucleotides. The LMEs can be expressed by standard recombinant technology. The LME polypeptides, polynucleotides and modulators may be used in the prevention, diagnosis and treatment of
                                                                                                                                                                                                                                                                                                                                                                                                                                  06-OCT-2000;
13-OCT-2000;
02-NOV-2000;
08-NOV-2000;
                                                                                                                                                                                                                           Lipid Metabolism Enzymes and nucleic acids, useful for preventing, diagnosing and treating e.g. cancer, Alzheimer's disease and Creutzfeld-Jakob disease -
                                                                                                                                                                    The invention relates to human lipid metabolism enzymes (LMEs)
                                                                                                                                                                                                 Claim 1; Page 119–121; 127pp; English.
                                                                                                                                                                                                                                                                                       N-PSDB;
                                                                                                                                                                                                                                                                                                                                                            Harland L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; lipid metabolism enzyme; LME; cytostatic; neuroprotective; nootropic; cerebroprotective; antiparkinsonian; antialzheimers; vaccine; antisclerotic; antimicrobial; anti-AIDS; cardiovascular; antianginal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-OCT-2001; 2001WO-US31302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200229036-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene
                                                                                                                                                                                                                                                                                                                                                                                         (INCY-) INCYTE GENOMICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human lipid metabolism
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABB08008;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABB08008 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    630 LIQVISGQQLPKYDKT---KEGSIYDPLVKVQIFGVRLDTARQETNYVENNGFNPYWGQT 686
                                                                                                                                                                                                                                                                                                    2002-315862/35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       therapy; protein therapy; enzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IFVYICIQE---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVFMVHMPEIALVRELVWDHDPIGR-DEIGQRTLAFSSMMPGYRHVYL---EG--MEEAS 870
                                                                                                                                                                                                                                                                                                                                                Ĭ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IFVHVAVSDISGKVKQALGLKG 892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LCFRVLVPELAMLRFVVMDYDWKSRNDFIGQYTLPWTCMQQGYRHIHLLSKDGISLRPAS
                                                                                                                                                                                                                                                                                         ABL60544.
                                                                                                                                                                                                                                                                                                                                Tribouley
                           LME-8
                                                                                                                                                                                                                                                                                                                                             Yao MG,
                                                                                                                                                                                                                                                                                                                                                            Arvizu C,
                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-240616P.
2000US-245719P.
2000US-247503P.
2000US-249503P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-238388P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                         polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----GLEG
                                                                                                                                                                                                                                                                                                                                  CM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protein;
                                                                                                                                                                                                                                                                                                                                             C, Das
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             enzyme (LME)-8 (Id: 7484327CD1).
                                                                                                                                                                                                                                                                                                                                             D, Griffin Elliott VS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     828
                                                                                                                                                                                                                                                                                                                                        Griffin JA, Baughn MR,
iott VS, Thangavelu K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                           cancer), neurological disorders (e.g.
                                                                                                                                                                                                                                                                                                                                                       Ding
                                                                                                                                                                  and
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
RESULT 12
AAU76816
ID AAU76
XX
AC AAU76
XX
AC AAU76
XX
DT 21-MA
XX
                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              114 PNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQT 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 354 MYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVIL 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         234
                    21-MAY-2002
                                                  AAU76816;
                                                                                     AAU76816 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31 PCSRALPGPAT-------LSAGYLTPAFPDLELTTDQDLLLMQEGMPMRKVR 75
                                                                                                                                                                         822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSELLRSLAEELPL 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFD 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PTAGPLPGPALPPEDPGPDPESRWLFLSANILP-----VYERCMGAMQEGMQMVKLR 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANI 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLVGDQLCGQSSVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELIDRYEPSDSGKLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSK 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTLEGEEFVQFYKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKM 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMD----HQERLDQWLSDW 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIEMEAASSWQVSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVE 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EEDL---EYEEEEAEPELEE------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPN 533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPEELRRKILVKGKKL--TL
                                                                                                                                                                                                                                                                                                                                                                                 AGLEMDICDGHFRQNGGCGYVLKPDFLRDIQSSFHP--EKPISPFKAQTLLNQVISVQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSN-YNPQPFWNAGCQMVALNYQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      K-----PESLLLSRQKSKPILCPALSSLVIYLKSVSFRSFTH--SKEHYHFYEISS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----SELALESQFETEPEPQEQ------NLQNKDKKKIVAQAPIS 538
                                                                                                                                                                                                          SGKVKQALGLKG 892
                                                                                                                                                                                                                                                                                                              PKVDKT----KEGSIVDPLVKVQIFGVRLDTARQETNYVENNGFNPYWGQTLCFRVLVPEL
                                                                                                                                                                                                                                                                                                                                               PKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEI
                                                                                                                                                                                                                                                                                                                                                                                                                  EGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLKKQLVLRIISGQQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                    FSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYYNPQELWNAGCQMVAMNMQT
                                                                                                                                                                                                                                          AMLREVVMDYDWKSRNDFIGQYTLPWTCMQQGYRHIHLLSKDGISLRPASIFVYICIQE-
                                                                                                                                                                                                                                                                           ALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---EG--MEEASIFVHVAVSDI 880
                  (first entry)
                                                                                                                                                                           825
                                                                                       Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    503
```

B Ş

MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76 MQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSE 102

45 18

Query Match Best Local Matches

Similarity

Conservative 145; Mismatches

22.4%; Score 1432; DB 23; 38.2%; Pred. No. 4.2e-102;

Length Indels

134;

Gaps

Sequence

762 AA;

```
The invention relates to human phospholipase C (PLC) polypeptides 16816 CC and 16839. The polypeptides can be used in the treatment and diagnosis of CC various disorders including cellular proliferative and/or differentiative disorders (e.g. carcinoma and leukaemia), brain disorders including glial CC disorders (e.g. cerebral oedema), cerebrovascular diseases (e.g. cure is schaemia and prion diseases), demyelinating diseases (e.g. multiple CC meningitis and prion diseases), demyelinating diseases (e.g. multiple CC cierosis), degenerative diseases (e.g. Alzheimer's disease), heart CC disorders including heart failure, ischaemic heart disease (e.g. myocardial infarction), myocardial disease (e.g. myocardial), benefic cerebrosis), inflammatory disease (e.g. myocardials), neplastic cerebrosis), inflammatory disease (e.g. Kawasaki syndrome), bone CC metabolism disorders (e.g. osteoporosis), cirrhosis, rickets, chronic cerenal disease, haematopoletic disorders, autoimmune diseases (e.g. syndrome, psoriasis, crohn's disease, uveitis, atopic allergy, and cerebrosis pathology of therapeutic interventions in vascular disease (e.g. balloon angioplasty and related techniques) and vascular replacement (e.g. carears at a common content of the commo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; phospholipase C; PLC; phospholipase C 16816; brain disorder; cellular proliferative disorder; differentiative disorder; prion disease; glial disorder; cerebrovascular disease; acute meningitis; cirrhosis; demyelinating disease; degenerative disease; heart disorder; rickets; ischaemic heart disease; myocardial disease; neoplastic heart disease; vascular disease; inflammatory disease; bone metabolism disorder; enzyme; chronic renal disease; haematopoletic disorder; autoimmune disease; arthritis; systemic lupus erythematosus; Sjogren's syndrome; psoriasis; crohn's disease; uveitis; atopic allergy; balloon angioplasty;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human phospholipase C 16816 polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17-JUL-2001; 2001WO-US22760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ney Location/Qualifiers Misc-difference 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New human phospholipase C protein for diagnosing and treating disorders e.g. Alzheimer's disease, heart failure, cancer, psoriasis, Sjogren's disease, and to identify modulators for therapeutic use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17-JUL-2000; 2000US-218675P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200206302-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        coronary artery bypass graft surgery.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB; ABK10063.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Meyers R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 4; Fig 1; 129pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MILL-) MILLENNIUM PHARM INC
                                                  coronary artery bypass graft surgery). This sequence represents phospholipase C 16816.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2002-188535/24.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rudolph-Owen L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "Encoded by CGC"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Encoded by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tsai FY;
```

```
AAE14270
  밁
                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                           뫄
                                                                                                                                                                                                                                                                                 γQ
                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                       рь
                                                                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ρ
                                                                                                     07-MAR-2002 (first entry)
 vaccine;
                                                                                                                                AE14270;
                                                                                                                                                    AE14270 standard;
                                                                                                                                                                                                               747
                                                 uman; phospholipid C delta 5; PLCD5 protein; deep vein thrombosis;
                                                                           uman phospholipase C delta 5 (PLCD5) protein #3.
                                                                                                                                                                                                                                     871
                                                                                                                                                                                                                                                                                                          630
                       rteriosclerosis;
                                              ngina
                                                                                                                                                                                                                                                                                                                               757
                                                                                                                                                                                                                                                                                                                                                       572
                                                                                                                                                                                                                                                                                                                                                                             699
                                                                                                                                                                                                                                                                                                                                                                                                                         639
                                                                                                                                                                                                                                                                                                                                                                                                                                                 485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      311
                           gina pectoris; percutane transluminal coronary angiography; prombo embolic insult; disseminated intravascular coagulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77
                                                                                                                                                                                                            IFVYICIQE --
                                                                                                                                                                                                                                IFVHVAVSDISGKVKQALGLKG
                                                                                                                                                                                                                                                   LCFRVLVPELAMLREVVMDYDWKSRNDFIGQYTLPWTCMQQGYRHIHLLSKDGISLRPAS
                                                                                                                                                                                                                                                                         LVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---EG--MEEAS
                                                                                                                                                                                                                                                                                                LIQVISGQQLPKVDKT----KEGSIVDPLVKVQIFGVRLDTARQETNYVENNGFNPYWGQT
                                                                                                                                                                                                                                                                                                                     VLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEET 816
                                                                                                                                                                                                                                                                                                                                              CQMVAMNMQTAGLEMDICDGHFRQNGGCGYVLKPDFLRDIQSSFHP--EKPISPFKAQTL
                                                                                                                                                                                                                                                                                                                                                                    COMVALNYOSEGRMLQLNRAKESANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLKKQL 756
                                                                                                                                                                                                                                                                                                                                                                                            KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYNPQELWNAG
                                                                                                                                                                                                                                                                                                                                                                                                                 MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                              GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIK 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKK 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVKGKKL--TLEEDL---EYEEEEAEPELEE------SELAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AFQTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPEELRRKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKI 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RYERSDSGKLRHVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ESQFETEPEPQ----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QERLDQWLSDWFQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMD----H 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR 162
         rheumatoid arthritis;
gene
                   epilepsy; depression;
                                                                                                                                                    Protein;
                                                                                                                                                                                                            ---GLEG
                                                                                                                                                                                                                                 892
                                                                                                                                                    759
                                                                                                                                                                                                            759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ------EQNLQNKD---
        immune disorder;
                  neurodegenerative
                                                                                                                                                                                                                                                                                                                                                                                                                                         -LCPALSSLVIYLKSVSFRSFTH--S
    chromosome localisation;
                disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -KKKK
                                       PTCA;
                                                                                                                                                                                                                                                    746
                                                                                                                                                                                                                                                                                                  686
                                                                                                                                                                                                                                                                                                                                               629
                                                                                                                                                                                                                                                                                                                                                                                                                   698
                                                                                                                                                                                                                                                                                                                                                                                                                                         511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     402
                                     밁
                                                                                   밁
                                                                                                        ρŞ
                                                                                                                                 밁
                                                                                                                                                     Ş
                                                                                                                                                                              밁
                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                         ₽
                                                                                                                                                                                                                                                                                              γ
                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                              223
```

```
Query Match
                                                                                                                                                                                                                                   The patent discloses phospholipid C delta 5 (PLCD5) proteins and their corresponding polynuclectides. PLCD5 sequences are useful for treating deep vein thrombosis, instable angina pectoris, percutane transluminal coronary angiography (PTCA), thrombo embolic insult, disseminated intravascular coagulation, arteriosclerosis, epilepsy, depression, neurodegenerative diseases, stroke, rheumatoid arthritis and immune disorders. PLCD5 sequences are also useful as vaccines for inducing immunological response in a mammal. PLCD5 DNAs are also useful for
                                                                                                 Sequence
                                                                                                                                                                       chromosome localisation studies, as valuable tools in tissue expression studies and in gene therapy. The present sequence is PLCD5 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           angiography, disseminated intravascular coagulation and epilepsy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; Page 48-50; 51pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New phospholipase C delta 5 polypeptides, useful for treating deep vein thrombosis, instable angina pectoris, percutane transluminal coronary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Brandt S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (MERE ) MERCK PATENT GMBH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-APR-2000; 2000EP-0109318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27-APR-2001; 2001WO-EP04784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200183771-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
ocal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2002-034515/04
DB; AAD23723.
Similarity
                                                                                              759 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Duecker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ij
             Length 759
```

Matches 326; Conservative 21.7%; 147; Score 1385.5; DB 23; Pred. No. 1.7e-98; Mismatches 251; Indels 139; Gaps 23;

163 133 QRTRDQWLKQTFDEADKNGDGSLSIGEYLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL ERLDHDW----FQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTL 187

188 EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID

GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE 282

308 343 GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY

403 APIKNEYPVILSIENHCSVIQQKKMAQYLTDIIGDKLDLSSVSSEDATTLPSPQMLKGKI GDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY

24;

```
AAE14269
ID AAE14
XX AAE14
XX AAE14
XX O7-MA
XX 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; phospholipid C delta 5; PLCD5 protein; deep vein thrombosis; angina pectoris; percutane transluminal coronary angiography; PTCA; thrombo embolic insult; disseminated intravascular coagulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200183771-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     stroke; rheumatoid arthritis; immune disorder; chromosome localisation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   arteriosclerosis; epilepsy; depression; neurodegenerative disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAE14269 standard;
The patent discloses phospholipid C delta 5 (PLCD5) proteins and their corresponding polynucleotides. PLCD5 sequences are useful for treating deep vein thrombosis, instable angina pectoris, percutane transluminal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-APR-2000; 2000EP-0109318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27-APR-2001; 2001WO-EP04784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 vaccine; gene therapy.
                                                                                                                         Claim 1; Page 43-45;
                                                                                                                                                                                    angiography, disseminated intravascular coagulation and epilepsy
                                                                                                                                                                                                                  New phospholipase C delta 5 polypeptides, useful for treating deep vein thrombosis, instable angina pectoris, percutane transluminal coronary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (MERE ) MERCK PATENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKK 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIFVYICIQE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSN-YNPQPFWNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIFVHVAVSDISGKVKQALGLKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---EG--MEEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LLNQVISVQQLPKVDKT---KEGSIVDPLVKVQIFGVRLDTARQETNYVENNGFNPYWGQ 682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEE 815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCQMVAMNMQTAGLEMDICDGHFRQNGGCGYVLKPDFLRDIQSSFHP--EKPISPFKAQT 625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCOMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLKKQ 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYYNPQELWNA
                                                                                                                                                                                                                                                                                                                 2002-034515/04.
DB; AAD23722.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phospholipase C delta 5 (PLCD5) protein #2.
                                                                                                                                                                                                                                                                                                                                                                                                             ß
                                                                                                                                                                                                                                                                                                                                                                                                             Duecker K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GMBH
                                                                                                                         51pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                Gleitz
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -GLEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
```

```
999999998<del>8</del>8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΨ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       οy
                                                                                                                                                                  2
                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                   ₽
                 Ş
                                                       В
                                                                                           Š
                                                                                                                                В
                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       coronary angiography (PTCA), thrombo embolic insult, disseminated intravascular coagulation, arteriosclerosis, epilepsy, depression, neurodegenerative diseases, stroke, rheumatoid arthritis and immune disorders. PLCD5 sequences are also useful as vaccines for inducing immunological response in a mammal. PLCD5 DNAs are also useful for chromosome localisation studies, as valuable tools in tissue expression studies and in gene therapy. The present sequence is PLCD5 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          223
                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                      458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    45 MQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSE 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RYEPSDSGKLRHVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVT---SMDHQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ERLDHDW----FQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL
-----MPGYRHVYL---EG--MEEASIFVHVAVSDISGKVKQALGLKG
                                                                                                                                                                                                                                                                                     KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYYNPQELWNA
                                                                                                                                                                                                                                                                                                                                                                                                  GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKK 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVKGKKL--TLEEDL---EYEEEEAEPELEE------SELAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIK 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AFQTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPE-LRRKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AFIKNEYPVILSIENHCSVIQOKKMAQYLTDIIGDKLDLSSVSSEDATTLPSPQMLKGKI
                                                           TLCFRYLYPELAMLRFYYMDYDWKSRNDFIGQYTLPWTCMQQGEPAPLAPGQYPSSGCLP 742
                                                                                             TLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSM-------
                                                                                                                                    LLNQVISVQQLPKVDKT---KEGSIVDPLVKVQIFGVRLDTARQETNYVENNGFNPYWGQ
                                                                                                                                                                        LVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEE 815
                                                                                                                                                                                                          GCQMVAMNMQTAGLEMDICDGHFRQNGGCGYVLKPDFLRDIQSSFHP--EKPISPFKAQT
                                                                                                                                                                                                                                             GCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLKKQ
                                                                                                                                                                                                                                                                                                                         MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSN-YNPQPFWNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 1372.5;
Pred. No. 1.9e-
48; Mismatches
                                                                                                                                                                                                                                                                                                                                                                ------LCPALSSLVIYLKSVSFRSFTH--S
                                                                                                                                                                                                                                                                                                                                                                                                                                          EQNLQNKD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              249;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels 165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                      638
                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        247
                                                                                                                                                                                                                                                                                         567
                                                                                                                                                                                                                                                                                                                                                                507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     457
```

```
RESULT 15
ABB07492
   Query Match
Best Local Sim
Matches 317;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭥
                                                                                                                                                                      and assess the toxicity of test compounds. The LAMM polypeptides, modulators and antibodies are specifically useful for diagnosing, treating or preventing cancers (e.g. adenocarcinoma, leukemia, lymphoma, melanoma or sarcoma), neurological disorders (e.g. epilepsy, stroke, cerebral neoplasms, Alzheimer's disease or pick's disease), autoimmune/inflammatory disorders (e.g. AIDS, Addison's disease, allergies, asthma, or atherosclerosis), gastrointestinal disorders (e.g. dysphagia, peptide
                                                                                                                                                                                                                                                                                    The invention provides human lipid metabolism molecule (LMM) polypeptides and polynucleotides. The LMM polypeptides can be expressed by standard recombinant methodology. The LMM polypeptides are useful for diagnosing or treating a condition or disease associated with the expression of LMM, or screening for compounds that specifically bind to or modulate the activity or expression of LMM. They are also used to generate antibodies
                                                                                                                                                        esophagitis, gastritis, gastric carcinoma, anorexia or nausea), skin
                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-JUL-2000;
14-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lipid metabolism molecule; LMM; cytostatic; nootropic; neuroprotective; anticonvulsant; immunosuppressive; anti-inflammatory; dermatological; cardiovascular; antiHIV; antiemetic; antiallergic; hypertensive; human;
                                                                                                           isorders (e.g. dermatitis, eczema, or scleroderma), and cardiovascular isorders (e.g. hypertension, arterial dissections, vascular tumours, other compositions of the present sequence represents a human LMM polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                        Çlaim 1; Page 110-112; 128pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                ipid metabolism molecules useful in diagnosing, treating or preventing cancers, and neurological, autoimmune/inflammatory, gastrointestinal,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TAN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human lipid metabolism molecule (LMM) polypeptide (ID:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INCY-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-JUL-2001; 2001WO-US21432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VO200204490-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABB07492;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABB07492 standard; Protein; 731 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -PSDB; ABA94695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        743 NAVLLPLPGYRHIHLLSKDGISLRPASIFVYICIQE------GLEG 782
                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2002-164631/21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gandhi AR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gene therapy; protein therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                          cardiovascular disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Azimzai Y,
                                                                    731 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; 2000US-216801P.
; 2000US-216803P.
; 2000US-218233P.
; 2000US-220046P.
; 2000US-220739P.
; 2000US-222824P.
     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Patterson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Walia NK,
                20.8%; Score 1325.5; DB 23; 36.7%; Pred. No. 7.6e-94;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'n
     144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NK, Khan
Lal P, F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Thornton M, Lo
Khan FA, Lo
Al P, Ramkumar
   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lu DAM,
Lu Y, Yao
ar J, Ngu
   234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Yao MG, Ha
Nguyen DB,
   Indels
                              Length 731;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tribouley CM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2181310CD1).
 169;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hafālia AJA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Baugn
Gaps
                                                                                                                            or
C
24;
```

```
`...
                                                               밁
                                                                                        Š
                                                                                                                              밁
                                                                                                                                                          Š
                                                                                                                                                                                            B
                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                Дb
                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                             멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
 714
                                                               654
                                                                                             815
                                                                                                                                                            755
                                                                                                                                                                                            539
                                                                                                                                                                                                                        697
                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                      637
                                                                                                                                                                                                                                                                                                                    452
                                                                                                                                                                                                                                                                                                                                                  581
                                                                                                                                                                                                                                                                                                                                                                                429
                                                                                                                                                                                                                                                                                                                                                                                                                                               398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         45
                                                     QTLCFRVLVPELAMLRFVVMDYDWKSRNDFIGQYTLPWTCMQQGYRHIHLLSKDGISLRP
                                                                                                                    TLLIQVISGQQLPKVDKT---KEGSIVDPLVKVQIFGVRLDTARQETNYVENNGFNPYWG
                                                                                                                                        QLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWE
ASIFVYICIQE:
                            ASIFVHVAVSDISGKVKQALGLKG 892
                                                                                      ETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---EG--MEE
                                                                                                                                                                                  AGCQMVAMNMQTAGLEMDICDGHFRQNGGCGYVLKPDFLRDIQSSFHP--EKPISPFKAQ
                                                                                                                                                                                                                AGCOMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLKK
                                                                                                                                                                                                                                               -SKEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYNPQELWN
                                                                                                                                                                                                                                                                             IEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWN
                                                                                                                                                                                                                                                                                                                                         KKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THD
                                                                                                                                                                                                                                                                                                                                                                                ALESOFETEPEPO---
                                                                                                                                                                                                                                                                                                                                                                                                     IKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRK 580
                                                                                                                                                                                                                                                                                                                                                                                                                                     KILVKGKKL--TLEEDL---EYEEEEAEPELEE------SEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QYAFQTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPEELRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VGDQLMSQSRVDMY-AWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SQFETEP-GKLRHVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VGDQLCGQSSVEGY IRRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----KILVKGKKL-------TLEEDLEYEEEEAEPELEESELALE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QERLDQWLSDWFQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQELRR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMD----H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE
                                                                                                                                                                                                                                                                                                             -EQNLQNKD--
                                                                                                                                                                                                                                                                                                                                                                           -KK
                                                                                                                                                                                                                                                                                                                                           636
                                                                                                                                                                                                                 754
                                                                                                                                                                                                                                                 538
                                                                                                                                                                                                                                                                               696
                                                                                                                                                                                   596
                                                                                                                                                                                                                                                                                                             479
                                                                                                                                                                                                                                                                                                                                                                         451
                                                                                                                                                                                                                                                                                                                                                                                                                                     428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   76
```

Search completed: March 28, 2003, 13:48:57
Job time: 90 secs

```
Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Word size :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Perfect score:
                                                                                                                                                                                                                           იიი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        იი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       00000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
     199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 199 1 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OLIGO_NUC
Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-927-112-1
4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     March 28, 2003, 22:01:49; Search time 167 Seconds (without alignments) 8511.657 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         441362 seqs, 153338381 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . . . . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Issued_Patents_NA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tcgcgatctagaactagtgg.....ggtaacggggcccagccccg 4635
  GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6A_COMB.seq:*
/cgn2_6/ptodata/1/ina/6A_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
/cgn2_6/ptodata/1/ina/backfiles1.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
     1365
1365
1062
2377
2772
4425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB
US-08-114-072-1
PCT-US94-09361-1
US-08-466-103A-13
US-09-479-195-1
US-09-280-420-1
US-08-749-165A-1
US-08-130-032A-1
US-09-130-032A-1
US-09-130-032A-1
US-09-276-531-3-1
US-09-276-531-3-1
US-08-138-641-1
US-08-138-641-3
US-08-214-278-4
US-08-214-278-4
US-08-214-278-4
US-08-928-3618-3
US-08-975-763-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      882724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
Sequence
                                                                                                                                                                                                                                                                                                             Sequence
Sequence
Sequence
Sequence
     Sequence
Sequence
Sequence
                                                                                                               Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                        Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1,
                                                                                                                                                                                                                                 Sequence
                                                                                       Sequence
        1, Appli
13, Appli
11, Appli
11, Appli
11, Appli
11, Appli
11, Appli
13, Appli
13, Appli
14, Appli
15, Appli
16, Appli
17, Appli
18, Appli
19, App
```

ος	35		ហ្គ	0 0 0 0 0 0 0 0 0 0 0 0 0 0
Best Loc Matches 3334 1066	CLASSIFICATION: 435 ATTORNEY/AGENT INFORMATION: NAME: MYSTE, Paul L. NAME: MYSTE, Paul L. REGISTRATION NUMBER: 35,965 REFERENCE/DOCKET NUMBER: MG TELECOMMUNICATION INFORMATION: TELEFAX: (617) 227-7400 TELEFAX: (617) 227-75941 INFORMATION FOR SEQ ID NO: 1: SEQUENCE CHARACTERISTICS: LENGTH: 1355 base pairs TYPE: nucleic acid STRANDEDNESS: single TOPOLOGY: linear -08-114-072-1	ADDRESSEE: LAHIVE ADDRESSEE: ADATE COUNTRY: Boston STATE: Massachuse COUNTRY: USA ZIP: 02109 COMPUTER READABLE FO MEDIUM TYPE: Floy COMPUTER: IBM PC COMPUTER: IBM PC COMPUTER: ASCII CURRENT APPLICATION NUMBER APPLICATION NUMBER APPLICATION NUMBER APPLICATION NUMBER APPLICATION NUMBER ADDRESSEE: SOFTWARE: ASCII CURRENT APPLICATION NUMBER APPLICATION NUMBER APPLICATION NUMBER ADDRESSEE: MAINTANDE APPLICATION NUMBER ADDRESSEE: MAINTANDE ADDRESSEE: M	ULT 1 08-11 atent atent App App App App App App	00000000000000000000000000000000000000
al simi 21; CTCCGGA CTCCGGA	FILING DAT TORNEY/AGE MAME: Mye REGISTRATI- REFERENCE/ LECOMMUNIC TELEPAXE TELEPAXE TELEPAXE TELEFAX TELEFAXE TELEF	NUMBER ON LEARN OF THE PORTUGE OF TH	122 672	119 119 119 118 118 118 118 118 118 118
ilarity Conser AAGCCCC AAGCCCCC	TILING DATE: CLASSIFICATION: CLASSIFICATION: TTORNEY/AGENT INF NAME: Myezs, Pan REGISTRATION NUM REFERENCE/DOCKET TELEPHONE: (617) TELEFAX: (617) TELEFAX: (617) ORMATION FOR SEO REQUENCE CHARACTER LENGTH: 1365 bas TYPE: nucleic as TYPE: 1166	NACCED BE PARTED		OOOOOOOOOOOOOOOO
vati	DATE: AGENT INFORMATION: MYETS, PAUL L. MYETS, PAUL L. AUTION NUMBER: 35,9 ACE/DOCKET NUMBER: ICE/DOCKET NUMBER: NUMCATION INFORMATION NME: (617) 227-540 (617) 227-591 INFOR SEQ ID NO: 1: CHARACTERISTICS: 1365 base pairs nucleic acid suness: single 3Y: linear -1		On Da	10317 10317 80161 80161 41 43 445 447 447 447 447 455 500 500
ve CAGG	E. ITION: L. ITI		US/0811 (vid, Christi Christi Res, Gilles INTERLE	ט א ט 4 ב ב ב ב ע ב ב ב ב ב ב ב ב ב ב ב ב ב
%; Pr 0; 3354 1046	, P	& COCKFIELD STREET Suite 510 tts tts RM: RM: Compatible PC-DOS/MS-DOS DATA: DATA: US/08/114,072	US/08114072 Ivid, Christian, Ckes, Gilles INTERLEUKIN.	US-09-058-746-1 US-09-438-142-1 US-09-036-987A-1 US-09-370-700-1 US-08-447-411-80 US-08-447-411-90-23 US-08-312-648-23 PCT-US94-04190-23 US-09-549-770B-11 US-09-549-770B-12 US-09-549-770B-13 US-09-549-770B-14 US-09-549-770B-14 US-08-049-473-34 US-08-049-473-37 US-08-049-04190-34 US-08-049-04190-34 US-08-049-04190-34 US-08-049-04190-34 US-08-049-0473-7
Mismatche	017	510 508 5072	10	39-058-746 39-036-987 39-036-987 39-036-987 38-049-473 38-049-473 39-549-770 39-549-770 39-549-770 39-549-770 39-549-770 39-549-770 39-549-770 39-549-770 39-549-770 39-549-770 39-549-770 39-549-770 39-549-770 39-549-770
No. 7.	•		MI DNW	8-746-1 8-142-1 6-987A-1 0-700-1 10-701-1 9-473-2 -04190-1 9-770B-9-770B
			SONUM	7
0; 1	Length		IMMUNOSUPPRESS	
Indels	fh 136		NOISSE	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
			Z	Sequence
0;				CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
Gaps				Appli Appli Appli Appli Appli Appli Appl Appl
0,				

RESULT 2 PCT-US94-09361-1/c

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-466-103A-13/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PCT-US94-09361-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Myers, Paul L.
REGISTRATION NUMBER: MSP-I
REFERENCE/DOCKET NUMBER: MSP-I
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEPAX: (617) 227-75941
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 13, Application US/08466103A Patent No. 5856124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1, Application PC/TUS9409361 GENERAL INFORMATION:
                APPLICATION NUMBER: US/08/466,10 FILING DATE: 06-UUN-1995 CLASSIFICATION: 435 PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/319,887 PILING DATE: 07-OCT-1994 PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/261,857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Reppert, Steven M.
APPLICANT: Ebisawa, Takashi
TITLE OF INVENTION: HIGH-AFFINITY MELATONIN
TITLE OF INVENTION: RECEPTORS AND USES THEREOF
NUMBER OF SEQUENCES: 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1066 CTCCGGAAGCCCAGCCCAGG 1046
                                                                                                                                                                                         SOFTWARE: FastSEQ for Windows Version 2.0 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3334 CTCCGGAAGCCCCAGCCCAGG 3354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII (text)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
| MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: INTERLEUKIN-10 AND IMMUNOSUPPRESSION NUMBER OF SEQUENCES: 3
                                                                                                                                                                                                                                                                                                                           COUNTRY: US
ZIP: 02110-2804
                                                                                                                                                                                                                                                                                                                                                                           STATE:
                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Fish a .....
emreet: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 1365 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: PCT/US94/09361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tch 0.5%; Score 21; DB 5; Length 1365; al Similarity 100.0%; Pred. No. 7.3; 21; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                       Æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                     Fish & Richardson P.C.
17-JUN-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Floppy disk
                                                                                                                                                                    US/08/466,103A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MGP-017PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
```

```
; Sequence 1, Application US/09280420
; Patent No. 6037131
                                                       US-09-280-420-1/c
                                                                              RESULT 5
                                                                                                                                                                                                                                                                                               US-09-479-195-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           묽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-479-195-1/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-466-103A-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: US 09/122,527
PRIOR FILING DATE: 1998-07-24
PRIOR APPLICATION NUMBER: US 60/053,565
PRIOR FILING DATE: 1997-07-24
NUMBER OF SEQ ID NOS: 12
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 1
                                                                                                                                                                                                                  Best Local Similarity
Matches 20; Conserv
                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1, Application US/09479195
Patent No. 6326526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: 617/542-8906
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTERISTICS:
LENGTH: 1062 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/479,195
CURRENT FILING DATE: 2000-01-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Reppert, Steven M.
APPLICANT: Gribkoff, Valentin K.
TITLE OF INVENTION: MELATONIN RECEPTOR-DEFICIENT MICE AND USES THEREOF
FILE REFERENCE: 10217/727002
                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: intron coding sequence between positions 1464 and OTHER INFORMATION: 1465
                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: CDS
LOCATION: (1270)...(2328)
                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Mus musculus
                                                                                                                                      1321 CGCCTGGAGCCTGCTGAGTG 1302
                                                                                                                                                                     4386 CGCCTGGAGCCTGCTGAGTG 4405
                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 2377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4386 CGCCTGGAGCCTGCTGAGTG 4405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       52 CGCCTGGAGCCTGCTGAGTG 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: Coding Sequence LOCATION: 1...1059
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Fraser, Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20;
                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      double
                                                                                                                                                                                                                0.4%; Score 20;
100.0%; Pred. No.
Ltive 0; Mismatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0.4%; Score 20;
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               00786/250002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 2;
                                                                                                                                                                                                                                   DB 4; Length 2377;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20;
                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1062;
                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

APPLICANT: Reppert, TITLE OF INVENTION:

MELATONIN 1A RECEPTOR GENE

Steven M

```
RESULT 6
US-08-749-169A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-280-420-1
                                                                                                                                                                                                                                                                                       Patent No. 5846770
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: RACIE, Lisa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                          1321 CGCCTGGAGCCTGCTGAGTG 1302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: REGULATORY REGIONS AND USES THEREOF NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                              4386 CGCCTGGAGCCTGCTGAGTG 4405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 2772 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: FastSEQ for CURRENT APPLICATION DATA:
                                                                                                                                                                                 APPLICANT: RACIE, Lisa
APPLICANT: LaVALLIE, Edward
APPLICANT: DEROBERTIS, Edward
TITLE OF INVENTION: CHORDIN COMPOSITIONS
NUMBER OF SEQUENCES: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 18-JUL-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: Genetics Institute, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: 0-154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM CON OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: Coding Sequence LOCATION: 1270...2328
OTHER INFORMATION: intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: 34
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 60/022,185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/09/280,420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME:
                                                                                                      STATE:
                                                                                                                                   STREET:
                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02110-2804
                                                                     02140
                                                                                                                    Cambridge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fraser, Janus K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΜÞ
                                                                                                                                                                                                                                                                                                       Application US/08749169A
                                                                                                      Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                225 Franklin Street
                                                                                                                                   87 CambridgePark Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    617/542-507
617/542-890
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FastSEQ for Windows Version 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fish & Richardson, P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Windows95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               intron coding sequence between positions 1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.4%; Score 20; DB 3; Length 2772; 100.0%; Pred. No. 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          08/895,701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     34,819
                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         00786/340002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-749-169A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-130-032A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; Sequence 1, Application; Patent No. 5986056; GENERAL INFORMATION:
                                    US-09-130-032A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity Matches 20; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (617) 876-5851
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: LAZAR, Steven R.
REGISTRATION NUMBER: 32,618
REFERENCE/DOCKET NUMBER: GI:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 498-8260
                                                                                                                          TELEFAX: (617) 876-5851
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 4425 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3164 GCCCCCGGCCCGGCCCTCCG 3183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/749,169A
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: LaVallie, Edward APPLICANT: Racie, Lisa APPLICANT: Denobertis, Edward TITLE OF INVENTION: HUMAN CHOI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE:
                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: GI
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 498-8260
                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/09/130,032A
FILING DATE: August 4, 1998
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: LAZAR, Steven R.
REGISTRATION NUMBER: 32,618
                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: Floppy
                                                         MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 73 GCCCCCGGCCCGGCCCTCCG 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: li
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Cambridge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET:
                                                                        STRANDEDNESS:
TOPOLOGY: lin
                                                                                                              TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nucleic acid
                                                                                                         nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Application US/09130032A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4425 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   87 CambridgePark Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genetics Institute, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                          Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    single
                                                                                         single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0.4%; Score 20; DB 2; Length 4425; 100.0%; Pred. No. 19; ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HUMAN CHORDIN COMPOSITIONS
     0.4%; Score 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     32,618
                                                                                                                                                                                                                                         GI 5284-DIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5284
     DB 2;
   Length 4425;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

0,

Best Local Similarity

100.0%;

Pred. No. 19;

```
US-08-406-030A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-406-030A-3/c
   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 3, Application US/08406030A Patent No. 6270989
                                                                                                                                                            INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Treco, Douglas A.
APPLICANT: Heartlein, Michael W.
APPLICANT: Hauge, Brian M.
APPLICANT: Selden, Richard F
TITLE OF INVENTION: Protein Produ
NUMBER OF SEQUENCES: 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                            REFERENCE/DOCKET NUMBER: TK
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 861-6240
                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/11704
FILLING DATE: 02-DEC-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US92/09627
FILLING DATE: 05-NOV-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 10-JUL-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07
                                                         MOLECULE TYPE:
                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/789,188
FILING DATE: 05-NOV-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/406,030A FILING DATE: 17-MAR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
|APPLICATION NUMBER: US 08/243,391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3164 GCCCCCGGCCCGGCCCTCCG 3183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
                                                                       TOPOLOGY:
                                                                                                            TYPE:
                                                                                                                                                                                                                                            NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY:
STATE:
                                                                                    STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US 07/911,533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            73 GCCCCCGGCCCGGCCCTCCG 92
                                                                                                                       ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Hamilton,
                                                                                                         4: 4488 base pairs
nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lexington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Two Militia Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                             (617) 861-9540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                              05-NOV-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Floppy disk
                                                     DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Protein Production and Delivery
   0.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US 07/787,840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US 07/985,586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Brook, Smith & Reynolds, P.c
 Score 20;
                                                                                                                                                                                                                                   TKT95-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
 DB 4;
Length 4488,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
```

```
Db 19561 GCCCCACACCACCCTGCCCC 19542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; OTHER INFORMATION: n = A, T, C or US-09-800-960-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-276-531-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-800-960-3/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE:
SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 31,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 3, Application US/09800960 Patent No. 6387677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: YE, Jane et al.
TITLE OF INVENTION: ISOLAT:
TITLE OF INVENTION: ACID M
TITLE OF INVENTION: THEREO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/800,960
CURRENT FILING DATE: 2001-03-08
NUMBER OF SEQ ID NOS: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
NAME/KEY: misc_feature
LOCATION: (1)...(62804
                                                                                                                                                                                                                                                                                                       APPLICANT: Yue, Henry
APPLICANT: Reddy, Roopa
APPLICANT: Guegler, Karl J.
APPLICANT: Baughn, Mariah R.
APPLICANT: Baughn, Mariah R.
TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF GENES ENCODING
TITLE OF INVENTION: RECEPTORS AND PROTEINS ASSOCIATED WITH CELL PROLIFERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4513 GCCCCACACCACCCTGCCCC 4532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
                                                             SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS CURRENT APPLICATION DATA:
                                                                                                                                      COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: INCYTE PHARMACEUTICALS, INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 62804
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2422 GCCCCCGGCCCGGCCCTCCG 2403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3164 GCCCCCGGCCCGGCCCTCCG 3183
                                                                                             COMPUTER: IBM PC
OPERATING SYSTEM:
                                 FILING DATE:
                                                APPLICATION NUMBER:
                                                                                                                                                                                                             CITY: PALO ALTO STATE: CALIFORNIA
                  CLASSIFICATION
                                                                                                                                                                                                                                                  STREET:
                                                                                                                                                                             ZIP:
                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20;
                                                                                                                                                                          94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1, Application US/09276531
6183968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                  3174 PORTER DRIVE
                                                                                                                                                                                            USA
                                                                                                                                                                                                                                                                                                                                                                                                                                             Bandman, Olga
Lal, Preeti
                                                                                                                                                                                                                                                                                                                                                                                                                             Hillman, Jennifer L.
                                                                                                 E: Floppy disk
IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ilarity 100.0%; I Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CL001158
                                 Herewith
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (62804)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0.4%; Score 20; DB
100.0%; Pred. No. 16,
htive 0; Mismatches
                                                                                                                                                                                                                                                                                                     134
                                                  US/09/276,531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. 19;
); Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 4; Length 62804; 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
```

```
US-08-358-171-1/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-276-531-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1, Application US/08358171
Patent No. 5763578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (650) 845-4166
INFORMATION FOR SEQ ID NO: 31:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                       TELEX: 248633
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Lynn E. Murry, Ph.D.
REGISTRATION NUMBER: 42,918
REFERENCE/DOCKET NUMBER: PA-0008 US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 60/079,6
FILING DATE: March 27, 1998
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4126 TGGGAAGAACCAGCTGCTC 4144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IMMEDIATE SOURCE:
LIBRARY: PROST
CLONE: 713784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: ALL TRANS-RETINALDEHYDE BINDING PROTEIN, DNA TITLE OF INVENTION: ENCODING SAME, AND ANTIBODIES THERETO NUMBER OF SEQUENCES: 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/358,171
FILING DATE: 16-DEC-1994
CLASSIFICATION: 530
CLASSIFICATION: 530
                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 1420 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: FO TELECOMMUNICATION INFORMATION: TELEPHONE: 202-628-5197 TELEPAX: 202-737-3528
                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: YUN, Allen C.
REGISTRATION NUMBER: 37,971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            312 TGGGAAGAACCAGCTGCTC 330
                                                        MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Match 0.4%; Score 19; DB 4; Length 703; Local Similarity 100.0%; Pred. No. 58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: 419 Sever CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ENGTH:
NAME/KEY: CDS
LOCATION: 17..889
                                                                          STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    703 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: BROWDY AND NEIMARK
419 Seventh Street, N.W., Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSTUT01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FONG, Henry K.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               single
                                                            CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60/079,677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                         FONG=2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-358-171-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-090-947-1/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
                                                                                                                                                                                                                                                ; NAME/KEY:
; LOCATION:
US-09-090-947-1
; Sequence 1, Application US/08138641; Patent No. 5474921; GENERAL INFORMATION:
                                                 RESULT 13
US-08-138-641-1
                                                                                                                  밁
                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1, Application US/09090947
Patent No. 6008338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 0.4%; Score 19; DB 1; Best Local Similarity 100.0%; Pred. No. 55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                Matches 19;
                                                                                                                                                                                  Query Match
Best Local Similarity 100.0%; P
                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 202-737-3528
TELEX: 248633
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3342 GCCCCAGCCCAGGAGGGGC 3360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: CORRESPONDENCE ADDRESS: BROWDY AN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: FONG, Henry K.W.
TITLE OF INVENTION: ALL TRANS-RETINALDEHYDE BINDING PROTEIN, DNA
TITLE OF INVENTION: ENCODING SAME, AND ANTIBODIES THERETO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: YUN, Allen C.
REGISTRATION NUMBER: 37,971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                   3342 GCCCCAGCCCAGGAGGGGC 3360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION: TELEPHONE: 202-628-5197
                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   469 GCCCCAGCCCAGGAGGGGC 451
                                                                                                                    469 GCCCCAGCCAGGAGGGGC 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Washington STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET:
                                                                                                                                                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: 202-737-3528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                    TYPE:
                                                                                                                                                                                                                                                                                                                                                                               ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20004
                                                                                                                                                                                                                                                                                                                                                               nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               419 Seventh Street, N.W., Suite 300
                                                                                                                                                                                                                                                                                                                                                                                  1420 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                   17..889
                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BROWDY AND NEIMARK
                                                                                                                                                                                                                                                                                                                    CDNA
                                                                                                                                                                                                                                                                                                                                                  single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      08/358,171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/09/090,947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                     Score 19; DB 3; Length 1420; 
; Pred. No. 55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FONG=2
                                                                                                                                                                                     red. No. 55,
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1420;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
```

```
US-08-138-133-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; | TOPOLOGY: linear; ; MOLECULE TYPE: cDNA US-08-138-641-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LEMEGTH: 3870 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1, Application US/08138133 Patent No. 5519163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: GIBBS, JACKSON B.
APPLICANT: KOBLAN, KENNETH S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Muthard, David A.
NAME: 35,297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: MACLEOD, ANGUS M.
APPLICANT: MERCHANT, KEVIN J.
TITLE OF INVENTION: INHIBITORS OF PHOSPHOINOSITIDE-SPECIFIC
TITLE OF INVENTION: PHOSPHOLIPASE C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1097 TGGACTGCTGGGATGGGCC 1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1537 TGGACTGCTGGGATGGGCC 1555
                                                          CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
TRANSPORT FOR THE TRANSPORTER FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Pompliano, David L.
TITLE OP INVENTION: ASSAY TO DETERMINE INHIBITORS OF
TITLE OP INVENTION: PHOSPHOINOSITIDE-SPECIFIC PHOSPHOLIPASE C-GAMMA
NUMBER OF SEQUENCES:
ORRESPONDENCE ADDRESS:
ADDRESSE: David A. Muthard
STREET: P.O. Box 2000, 126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                     STREET: P.O. CITY: RAHWAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: P.O. I
CITY: Rahway
STATE: New Jen
COUNTRY: USA
                                                                         MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Match 100.0%; P Local Similarity 100.0%; P Conservative 0;
FILING DATE:
           APPLICATION NUMBER: US/08/138,133
                                                                                                                                                                                                                                                                                                                                                                  STATE:
                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                        ÄDDRESSEE: DAVID A. MUTHARD
STREET: P.O. BOX 2000, 126 E. LINCOLN AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (908) 594-4720
TELEPHONE: (908) 594-4720
TELEPHONE: (908) 594-4720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/138,641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIUM TYPE:
                                                                                                                                                                                                                                                                                            07065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07065
                                                                                                                                                                                                                                                                                                                                                              NEW JERSEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New Jersey
                                                                                                                                                                                                                                                                                                                           U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Koblan, Kenneth S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E: Floppy disk
IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.4%; Score 19; DB 1; Length 3870; 100.0%; Pred. No. 52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
```

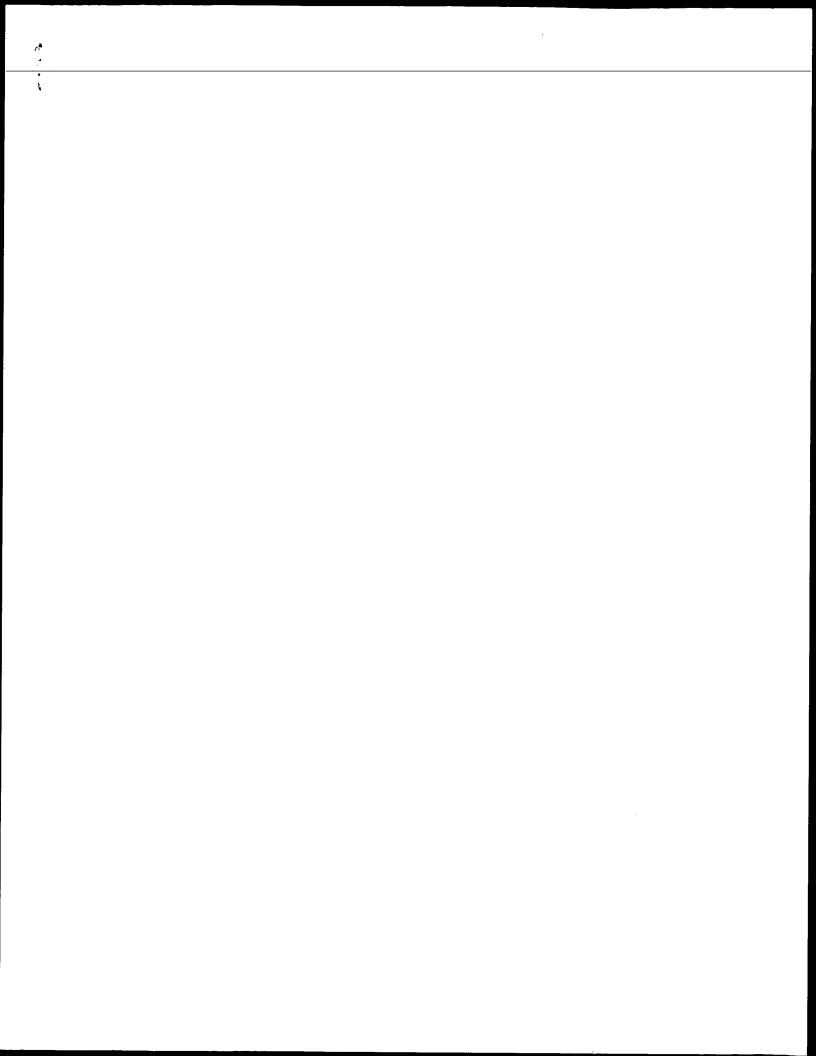
```
US-08-138-641-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; Sequence 3, Appliance 3, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-138-641-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-138-133-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REGISTRATION NUMBER: 35,297
REFERENCE/DOCKET NUMBER: 1893
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 594-3903
TELEPHONE: (908) 594-4720
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 3870 base pairs
               Matches
                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 19; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: (908) 594-3903
TELEPAX: (908) 594-4720
INFORMATION FOR SEQ ID NO: 3:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                 MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 3893 base pair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Muthard, David A.
REGISTRATION NUMBER: 35,297
REFERENCE/DOCKET NUMBER: 18:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/138,641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Koblan, Kenneth S.
APPLICANT: Pompliano, David L.
TITLE OF INVENTION: ASSAY TO DETERMINE INHIBITORS OF
TITLE OF INVENTION: PHOSPHOINOSITIDE-SPECIFIC PHOSPHOLIPASE C-GAMMA
NUMBER OF SEQUENCES: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1097 TGGACTGCTGGGATGGGCC 1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1537 TGGACTGCTGGGATGGGCC 1555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: CDNA
/ Match
Local Similarity 100.0%; P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STATE: N
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS: SI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07065
                                                                                                                                                                                                                                                                                                    : 3893 base pairs nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rahway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/08138641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New Jersey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E: David A. Muthard
P.O. Box 2000, 126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                 CDNA
                                                                                                                                                                                                                                                                    single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0.4%; Score 19;
100.0%; Pred. No.
ative 0; Mismatc
                                   0.4%; Score 19; DB 1; Length 3893; 100.0%; Pred. No. 52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18938
       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 1; Length 3870; 52;
   0; Indels
۰,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            o
;:
```

5

1537 TGGACTGCTGGGATGGGCC 1555

Db 1097 TGGACTGCTGGGATGGGCC 1115

Search completed: March 29, 2003, 13:11:14 Job time : 575 secs



```
Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Word size :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Perfect score:
Published Applications NA:*

1: /cgn2_6/ptodata/2/pubpna/USO7_PUBCOMB.seq:*

2: /cgn2_6/ptodata/2/pubpna/PCT_NEW_PUB.seq:*

3: /cgn2_6/ptodata/2/pubpna/USO6_NEW_PUB.seq:*

4: /cgn2_6/ptodata/2/pubpna/USO6_NEW_PUB.seq:*

5: /cgn2_6/ptodata/2/pubpna/USO9_NEW_PUB.seq:*

6: /cgn2_6/ptodata/2/pubpna/USO9_NEW_PUB.seq:*

7: /cgn2_6/ptodata/2/pubpna/USO9_NEW_PUB.seq:*

9: /cgn2_6/ptodata/2/pubpna/USO9_NEW_PUB.seq:*

9: /cgn2_6/ptodata/2/pubpna/USO9_NEW_PUB.seq:*

10: /cgn2_6/ptodata/2/pubpna/USO9_NEW_PUB.seq:*

11: /cgn2_6/ptodata/2/pubpna/USO9_NEW_PUB.seq:*

12: /cgn2_6/ptodata/2/pubpna/USO9_NEW_PUB.seq:*

13: /cgn2_6/ptodata/2/pubpna/USO9_NEW_PUB.seq:*

14: /cgn2_6/ptodata/2/pubpna/USO9_NEW_PUB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                March 29, 2003, 07:02:54; Search time 360 Seconds (without alignments)
10956.277 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OLIGO_NUC
Gapop_60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           574371 segs, 425486471 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 tcgcgatctagaactagtgg.....ggtaacggggcccagccccg 4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-927-112-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1148742
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

5 5 5 6 6 6 6 7 7 6 6 6 6 7 7 6 7 1 1 1 1 1 1	C 2	Result No.
00000000000000000000000000000000000000	4635 3624 20	Score
	100.0	Query Match
1530 1530 1840 22289 22629 2441 34441 34441 34441 34441	4635 3624 426	Query Match Length
001 001 001 001 001 001	10	BE
US-09-292-758-106 US-09-815-242-7987 US-09-815-242-7987 US-09-835-996A-7 US-09-804-969-14 US-09-908-664-3 US-09-908-664-1 US-09-908-664-1 US-09-908-664-1 US-09-944-413-6 US-09-944-413-6 US-09-944-997-6 US-09-944-907-6	US-09-927-112-1 US-09-927-112-3 US-09-954-456-1912	ID
Sequence 106, Appli Sequence 7, Appli Sequence 14, Appli Sequence 13, Appli Sequence 13, Appli Sequence 20, Appli Sequence 20, Appli Sequence 6, Appli	Sequence 1, Appli Sequence 3, Appli Sequence 1912, Ap	Description

c 45	C 44		42	41		c 39	38				c 34				c 30	29	28	27	26	25	24	23	22	21	20	
19	19	19	19	19	19	19	19	19	19	19	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	
3955	3441	3441	3043	2421	1540	537	358	290	289	273	62804	4235	4235	4235	4235	3547	3441	3441	3441	3441	3441	3441	3441	3441	3441	
9	10	9	ø	10	10	10	10	10	10	10	12	9	9	9	9	9	10	10	10	10	10	10	10	10	10	
US-10-219-248-4	US-09-095-881-1	US-10-084-700-3	US-10-098-841-304	US-09-815-242-7677	US-09-880-107-2390	US-09-864-761-8883	US-09-833-381-1154	US-09-864-761-25548	US-09-864-761-19416	US-09-878-574-8990	US-10-096-960-3	US-10-017-754-317	US-09-849-626-317	US-09-902-941-317	US-09-736-457-317	US-10-044-716-7	US-09-943-851A-6	US-09-944-654-6	US-09-943-762-6	US-09-944-432-6	US-09-944-097-6	US-09-944-396-6	US-09-945-015-6	US-09-945-587-6	US-09-944-457-6	
Sequence 4, Appri	sequence I, Appli	Sequence 3, Appli	Sequence 304, App	Sequence 7677, Ap	2390,	-					S, AE	Sequence 317, App		317		•	Sequence 6, Appli	•	•	•		-	. 0	, 0	, 0	

ALIGNMENTS

```
RESULT 1
US-09-927-112-1
                                                                                                                                                                                                                                                                                                                                                 ; NAME/KBY: CDS
; LOCATION: (435)...(4058)
US-09-927-112-1
                                       Ś
                                                                                   В
                                                                                                                        Ś
                                                                                                                                                                      밁
                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; GENERAL INFORMATION:
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: 32544, a novel human phospholipase C and TITLE OF INVENTION: uses thereof FILE REFERENCE: 38155-20048.00
CURRENT APPLICATION NUMBER: US/09/927,112
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR FILING DATE: 2000-11-08
NUMBER OF SEQ ID NOS: 17
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1, Application US/09927112
Patent No. US20020106774A1
                                                                                                                                                                                                                                                         Query Match 100.0%; Score 4635; Best Local Similarity 100.0%; Pred. No. 0; Matches 4635; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Meyers, Rachel
APPLICANT: Silos-Santiago, Inmaculada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Millennium Pharmaceuticals, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 4635
121
                                    121 GCTGAGGGGCTGAGTGCTCATTCCAGCCGCCTCGGGGAACCCCGGGCTGGGAAGACCCCATG 180
                                                                                                              61 AACCTGCCGGTCTCCGGCTGGGACGGTGGCTGGATCAGCTCAAGCCTCCAAGGCCCCTGAG 120
                                                                                                                                                                      1 TCGCGATCTAGAACTAGTGGCACGGCTCCTGCACTCCCACTGCCGCAGGAACTGCTCAGG 60
derigadesederidadidereatriceadecedecteddeaaacecdddeadaceceaid 180
                                                                                     AACCTGCCGGTCTCCGGCTGGGACGGTGGCTGGATCAGCTCAAGCCTCCAGGGCCCTGAG 120
                                                                                                                                                                                                                                                                  0; Mismatches
                                                                                                                                                                                                                                                                                                              DB 10; Length 4635;
                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                     0; Gaps
```

ACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGC 13	CCAGGACA	- 2 ₆₁
TGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGA 12 	g — g	201
ACCTCTACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATG 12 	ÓÓ	141
GACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCA 11	₹ <u>—</u> ₹	
CCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGG 1.08 	AACGTGA AACGTGA	0
CGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACA 10	D-D	961
CGCCGCCAGCGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGA 	8 ± 8	901
CACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACG 9	OO	8 41 841
CATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCACCA 84	<i>™</i> — <i>™</i>	781 781
GCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACT 78	ନ୍ଦ—ନ	721 721
CACGCAAGAACGAGAAGGCCAAGATCTCCATCGI 	$\sigma = \sigma$	6 661
<i>></i> >	<i>></i> >	601
GCGGTGCATGGGTGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTG 60 	CCGTGGTGGAGC	55_ 54_1
Q=Q	CTGAGGACCCAG	4 4 81 481
$\alpha - \alpha$	TCAGTCCCTCCA	421 421
3二3	4-4	361 361
3—3	3—3	301
8=8	ACCACCAGGCTT	241 241
は二は	CCTGGGGGTGAG	

8 B 8

유 성

유

B 85 B

5 B 5

B 8

유 성

음 성

B & B &

Ş

음 성 음

Ş

음 성

P &

γ

B & B

Qy 2341 ACATAGA	Qy 2281 TGAAGCTG	Qy 2221 ATGAGGGTC	Qy 2161 TCTCCA(Db 2161 TCTCCA(Qy 2101 TGGAGT	Qy 2041 CCGTCT	Qy 1981 AACTGGATTCCC	Qy 1921 AGCTCC	Qy 1861 ATGCGG	Qy 1801 AGATGC Db 1801 AGATGC	Qy 1741 GGGACA Db 1741 GGGACA	Qy 1681 AAAACC Db 1681 AAAACC	Qy 1621 TTGAAAC Db 1621 TTGAAAC	Qy 1561 GGGAGCCCL	Qy 1501 CTTGGG Db 1501 CTTGGG	Qy 1441 CCCACAAC; Db 1441 CCCACAAC;	QY 1381 AGCACC	1321	261
CATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCCTTCAGCGAGACCAAGGCCC	TGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACCAAGTCCGTGGCCACCCAC	AGGACTCCCCGGGAGGCCAGA	CAGGCGCAAGAAGGAAGGCAGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGGAG	GGAGTCTGGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCTCGTCGTCGTAAG 	CGTCTCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGAGA 	ATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCCAACAACTTC 	AGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAAG 	ATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTTGCA 	AGATGCTCAAGGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGG	GGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGA 	ACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCAGTATCTGACTGA	CATCAACAAATATGCC CATCAACAAATATGCC	CCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCA 	CTTGGGTCCTGCAGGCTGGCTGCCGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACG	ACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATG 	AGCACCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGT 	TGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCAACAAGAGTAAGAGGCTGCTGGTGACATCTTCAACCCTG	
	CACCAAGTCCGTGGCCACCCACG 2340	GCCGAGGGGCGACCCGGCAGAAGAAGACCA 2280 	GGCGGCCAGCGTGGAGGAGGGAG 2220 	TGGCCGCCTCGTCGTGGGAAGCT 2160	CAAGAGCAAGGCTGAAGAGGACG 2100 	CTGTGAGGACCCCAACACTTCT 2040	TGTAGAAAACACTGCTAAGAGGA 1980 	TGATGAGATTGACGATGACTGCA 192	GCTCCCAGCCAACATCAGCGAGG 186	AGTGAGCAGTGAAGATGCCACCACCACTCCCCTCTCCAC 1800	CCAGTATCTGACTGACATCCTTG 1740	TICATCAAGAAIGAGTACCCAGIGATCCTGTCCATCG 1680	CAAGATCCTCTTCAAAGACGTCA 1620 CAAGATCCTCTTCAAAGACGTCA 1620	RGACTGCTGGGATGGGCCCGACG 1560 	CCAGTCACGGGTGGACATGTATG 1500 CCAGTCACGGGTGGACATGTATG 1500	IGAGCCACTACTTCATCACCTCGT 144 	CAGAAAACAAGAGTAAGGGGCTGC 132	

421 GAGTGCGGCCCCCGCGTGTCCTGGACGGCCCCGGGCCTGCTGGGATGGCCGCACATGC	421 421	B &
361 CCGGCAGCGGCAGCCCCCGAGGTAAGGCGCCAGCTGCGGTGGCAGAGAAGAGCCCTGTGC 34	3361 3361	유 성
301 CAGACGATGTGGTG	3301 3301	A 4
241 GCCGCAGGGCTTCCCGGAGCTGGTCCTGGGTACACGGGACACAGGCTCCAAGGGGGTGG 3	3241 3241	B 8
181 CCGTTAGCCAGCGGATCCTGCGGCGCACGGCCAGCGCCCCGACCAAGAGCCAGAAGCCGG 3 	181	g 49
21 GAGGCCAAAGCCCGGCTCGCTGGACAGTCATGCTGGGCGGGC	121	B 성
)61 CTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAA)61)61	B &
)01 CAGGCTACAGACACGTGTACCTAGAAGGGATGGAA 	100	당 왕
41 ACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGC 300	41 41	d d
B1 CCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGTCTGGGACC		gy Qy
21 GCAGCAGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGG 	21	B 8
61 ACCGTGGGAAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACT 282 	19	g 99
01 TGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGGCGCGACTCCATGCTGGGGG 276	10	B &
41 GCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCAGCAGAAGCAGC 2	41 41	B 8
81 ACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTGCATGT 2	18	유 성
21 ACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCGGATGCTGCAGCTGA 2	21 21	gg Qy
61 GCATCTACCCCTCCTACCCTGTGTGGACTCCAGCAACTACAACCCGCAGCCCTTCTGGA 25	461 461	망양
401 ACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCAGCAGCTCTCCC 24	401 /	유 성
341 ACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGACCAAGGCCC 240	341	Db

4560	AGCCCGCCCACACCACCCTGCCCTCCAGACCCCCTGACCAAGCTTT	4501	dd Db
4560	ACACGO	4501	δ
4500	GCTGCTTTGGGCTGAAGCACCCCACTAGAAGGGTGTCTCCTTAGCCTGGAGGGAG	4	망
4500	gctttgggctgaagcaccccactagaagggtgtctccttagcctgagggagg	4.	0
4440	TGGGACGCCTGGAGCCTGCTGAGTGCCTGGAGTAGATTCCCTGGGCCCCAGGGCTTC TGGGACGCCTGGAGCCTGCTGAGTGCTGCGTGGAGTAGATTCCCTGGGCCCCAGGGCTTC	4381 4381	7g 4g
. iii	CTACTGGGAAGTCTGATGTGGGCAGGTAGTGCAGCTGCTGGGCGTCTCCTGCGCCCC		da
00	TCCCTACTGGGAAGTCTGATGTGGGCAGGTAGTGCAGCTGCTGGGCGTCTCCCTGCGCCCC	4321	Qγ
4320	CTGGGACTGGGGGCCATGTACCATCCCATTCCCACCTCCCTC	4261 4261	Qy dd
2 6	CCCAAACTCACCTCCTGGGCGGCTGGCGACCTGCATGCCCTGTTTC		Db
4260	GCGCTTCCCCAAACTCACCTCCTGGGCGGGCTGGCGACCTGCATGGCCCCCTGATGCCTTTC	4201	Qy
0	AGGTCTGGGGCCGGACTGTGGCCTGACATGCTGGGCCCCTCCG	4141	Db
0	GCTCTTGCTGAGGGTCTGGGGCCGGGACTGTGGCCTGACATGCTTGGGCCCCCTCCGGCTGG	14	γQ
4140	TGAGGCCCTGGGACTTGGATGGAGCTGGTTTGAGGCCCGACAGGCTGGGAAGAACCAGCT	80	망
4140	сствовасттвовтваасстветттвавесссвасавествовалавалство	4081	Ś
4080			망.
4080	CACTCTGCTCCCTTGGCTTGCCTGTGGCCCATAGCCCCAGCCCTCCTGTCTGAG	4021	S S
4020	CGTGGACGGTGTCGCCTCGTGCTCGTGCTCTGTATCCGTGGCACTGTCTCC	9	Db
4020	gregacegrereccregrerecregrerecregrerererary	3961	γQ
3960	GCGTGGTCCTCCCGCACGCCCCTGGCATGGCTGGGTCGACCTGCTGCTTCTG	9	ad -
3960	ceregrecrececaegeceregearagerggecreggreacerecrecrecrer		γQ
90	AGCTGGAGGAGTCAGGAGTAAATCCCCCATGTTCTCCGCCGGTAAGCCCCTCTTGCCCT	3841 3841	망양
9 40	GGGTGCCTGCAGGCAACCGGGGGGGCCCTGCAGGGAGAGATGAGTGCCTTGTTTT	7	Дb
84	AGGGTGCCTGCAGGCAACCGGGGGGCCCTGCAGGGAGAAGATGAGTGCCTTGTTTGCTCAAA	7	Qy
3780	GACTCCAGCAGCCCAGACAGCCCGGGCATCCCCGAAAGGTCCCCCCGC	7	Дb
3780	CCTCGGACTCCAGCAGCCCAGACAGCCCCGGGCATCCCCCGAAAGGTCCCCCCGCTGGCCTG	3721	Ş
3720	TGGAGGCAGGGTCCAGGCGGTAGCGGCTCCATGT	3661	Db
3720	AGAGGCCCCCAAGGGTCCTGGGGCCTGGAGGCAGGGTCCAGGCGGTAGCGGCTCCATGT	თ	δŌ
3660	GGCCTGGACCCTCACGCTATCCCGGGGAGAAGCA	3601	Дb
3660	ACTCACTGGGGGCCCCCTGCTGTGGCCTGGACCCTCACGCTATCCCGGGGAGAAAGCA	ō	γQ
3600	ନ୍ଦ୍ର - ଜ	3541	ДD
3600	ACCCAGCCCGGGGCCTGCAAGCAGGCAGGCAGTCGCCAGCAGCCCCGGGCCCGGG	3541	δδ
5 4	TGAAGTGTGTGTGGGATCCTGCGCCGGCGTGAACACCGGGGGCCTGCAGAGGGAGCGGC TGAAGTGTGTGTGGGATCCTGCGCCGGCCGGCTGAACACCGGGGGCCTGCAGAGAGGAGCGGCC	481 481	용 성
3540	DOBDOBY BODD STADES BANK AND AND AND AND AND STADES AND		}

Ş

```
; Sequence 3, Application US/09927112; Patent No. US20020106774A1
; GENERAL INFORMATION:
; APPLICANT: Millennium Pharmaceuticals, Inc.
; APPLICANT: Millennium Pharmaceuticals, Inc.
; APPLICANT: Millennium Pharmaceuticals, Inc.
; APPLICANT: Meyers, Rachel
; APPLICANT: Meyers, Rachel
; APPLICANT: Meyers, Rachel
; TITLE OF INVENTION: 32544, a novel human phospholipase C are interested of INVENTION: uses thereof
; TILE REFERENCE: 38155-20048.00
; CURRENT APPLICATION NUMBER: US/09/927,112
; CURRENT FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 60/246,808
; PRIOR FILING DATE: 2000-11-08
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 3624
      Ş
                                           문
                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                Ś
                                                                                                                         밁
                                                                                                                                                        Š
                                                                                                                                                                                                   Б
                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                       ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-927-112-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 2
US-09-927-112-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 78.2%; Score 3624; DB 10; Best Local Similarity 100.0%; Pred. No. 0; Matches 3624; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4621
                                               481
                                                                                                                           421
                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                            795
                                                                                                                                                                                                                                                                                                                      735
                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              _
GGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAAC 1034
                                  CGCCGCCAGCGACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAAC
                                                             CGCCGCCAGCGACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAAC
                                                                                                                                                                                                                        TACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGC
                                                                                                                                                                                                                                                                                                    TCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTTCTGGCATC 794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGGCTCCCCGACAGCCGGCCCCTTCCTGGCCCAGCTCTTCCGCCTGAGGACCCAGGG 494
                                                                                                                   ACCTGGGTCACTGGGCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACAGCCTGGCT
                                                                                                                                                        ACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGCCATCAGCGACGACGACAGCCTGGCT
                                                                                                                                                                                               TACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGC
                                                                                                                                                                                                                                                                           TCGGAGGTCTTCCAGCGCTACCCTGACGCAGCTTCGACCCCAACTGCTGCTTCAGCATC
                                                                                                                                                                                                                                                                                                                                                       CTGGTCCGCTTCTACCTGGACGACCGCTCCTGCATCCGCTGGAGGCCCTCACGC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAGGCCCTCACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCATGGGTGCCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGCTCCAAGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGGATCCGGAGAGCAGGTGGCTTTTCTTGAGCGCCAACATTCTGCCCGTGGTGGAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGGCTCCCCCGACAGCCGGCCCCTTCCTGGCCCAGCTCTTCCGCCTGAGGACCCAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCATGGGTGCCATGCAAGAGGGGATGCAGATGGTGAAGGTGCGTGGCGGCTCCAAGGGC 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGGATCCGGAGAGCAGGTGGCTTTTCTTGAGCGCCAACATTCTGCCCGTGGTGGAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGGGCCCAGCCCCG 4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTGCCCCCACCCACGCTTGCCTCCGTAGTTAGGAACTGAGAGCGGCGAGTGACAGGTAA 4620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTGCCCCCACCCCTTGCCTCCGTAGTTAGGAACTGAGAGCGGCGAGTGACAGGTAA 4620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ceeeecccaeccce 4635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 3624;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                              974
                                                                                                                     480
                                                                                                                                                                                                                                      854
                                       540
                                                                                                                                                          914
                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

```
Ş
                                                                                                                                  망
                                                            밁
                                                                                         δÃ
                                                                                                                                                                   Ş
                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뫄
                        2055
                                                            1561
                                                                                                1995
                                                                                                                                    1501
                                                                                                                                                                      1935
                                                                                                                                                                                                        1441
                                                                                                                                                                                                                                           1875
                                                                                                                                                                                                                                                                               1381
                                                                                                                                                                                                                                                                                                                   1815
                                                                                                                                                                                                                                                                                                                                                     1321
                                                                                                                                                                                                                                                                                                                                                                                                                           1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1575
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1155 TACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541 GGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCACAAGCTCAACGTGAAC
                    TCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAG
                                                                                                                                                                                                                        GAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGG
                                                     ATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCAACAACTTCTCCGTCTCCACACTG
                                                                             ATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCAACAACTTCTCCGTCTCCACACTG 2054
                                                                                                                                                   GATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGGAAACTGGATTCCCTC
                                                                                                                                                                                                     GAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGG
                                                                                                                               GATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTC
                                                                                                                                                                                                                                                                         AAGATCCTCGTGAAGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGC 1440
                                                                                                                                                                                                                                                                                                  AAGATCCTCGTGAAGGGGAAGAAGCTCCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                   GTCATCCAGCAGAAGAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                            GTCATCCAGCAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCTAC
                                                                                                                                                                                                                                                                                                                                                 CTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGC
                                                                                                                                                                                                                                                                                                                                                                                     CTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGGCTGCCGCTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gcTegCTGCCGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGAGCCCATTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTCCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTCCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCCTAC 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTG 1394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGC 1334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACCTGCTCATGCTGACCTACAGCAACCACCAGGACCACCTGGATGCCGCCAGCCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGCAGCCTC
CGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATC 1274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAAGCGGACACGGATGACCACCAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGG
                                                                                                                               1560
                    2114
                                                                                                                                                                                                     1500
                                                                                                                                                                                                                                     1934
                                                                                                                                                                                                                                                                                                             1874
                                                                                                                                                                                                                                                                                                                                                                                                                     1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1514
                                                                                                                                                                                                                                                                                                                                                                                   1814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             600
```

3135 GGCTCGCTGGACAGTCATGCTGCTGGCGGGCCCGGGCCCGGCCCTTCGGTTAGCCAGCGG 3194	\$ 8
GCGGTAAGGTCAAGCAGGCCCAAAAGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGC	ф
GGTAAGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCC	ઠ
3015 GTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCATGTGGCTGTCAGTGACATC 3074	B 8
2955 CGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGCCAGGCTACAGACAC 3014	유 성
2895 GTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGTCTGGGACCACGATCCCATCGGG 2954	유 성
2835 ACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGGAGACCCCTGGTTTTCATG 2894	B 8
2775 ATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACTGCAGCAGGGAGGAGCAG 2834	B 8
2715 ATCAGTGGCCAGCAGCTTCCCCAAGCCGCGCGACTCCATGCTGGGGGACCGTGGGGAGATC 2774	B 8
2655 AACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGCTGGTGCTCCGGATC 2714	B 8
2595 AGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTGCATGTGCCAGGGCGTGTTC 2654	B 8
2535 ATGGTTGCCCTGAACTACCAGTCAGAGGGGGGGATGCTGCAGCTGAACCGAGCCAAGTTC 2594	B 8
2475 TCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAA 2534	8 8
2415 CAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCAGCAGCTCTCCCGCATCTACCCCTCC 2474	B 8
2355 GCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGACCAAGGCCCACCAGATTCTGCAG 2414	용 성
2295 GCCCTCTCTGACCTGGTGAAGTACACCAAGTCCGTGGCCACCCAC	문양
2235 TCCCCGGGAGGCCGAGGGGGGGACCCGGCAGAAGAAGACCATGAAGCTGTCCCGG 2294	g 8
2175 AAGAAGGGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAGATGAGGGTCAGGAC 2234	음 성
2115 GATGCCGGGGCCAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCTTCTCCCAGGCGCAAG 2174	B 8
1621 TCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAG 1680	망

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                       망
                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                  5
                                                                       á
                                                                                                   밁
                                                                                                                         Ś
                                                                                                                                                     멍
                                                                                                                                                                           Ś
                        Ş
                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2821
                         4035
                                                3541
                                                                          3975
                                                                                                   3481
                                                                                                                                                       3421
                                                                                                                                                                              3855
                                                                                                                                                                                                      3361
                                                                                                                                                                                                                                 3795
                                                                                                                                                                                                                                                           3301
                                                                                                                                                                                                                                                                                   3735
                                                                                                                                                                                                                                                                                                             3241
                                                                                                                                                                                                                                                                                                                                      3675
                                                                                                                                                                                                                                                                                                                                                               3181
                                                                                                                                                                                                                                                                                                                                                                                       3615
                                                                                                                                                                                                                                                                                                                                                                                                                 3121
                                                                                                                                                                                                                                                                                                                                                                                                                                          3555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2941
                                                                                                                             3915
 3601
                                                                                                                                                                                                                                                                        AGCCCAGACAGCCCGGGCATCCCCGAAAGGTCCCCCCGCTGGCCTGAGGGTGCCTGCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGATICCTGCGCCGGCGTGAACACCCGGGGGCCTGCAGAGGGGAGCGGCCACCCAGCCCGGGG 3554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCCGACGTAACGCGCCAGCTGCCGGTGGCAGAGAAGAGCCCCTGTGCGAGTGCGGCCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGGAGCTGGTCCTGGGTACACGGGACACACAGGCTCCAAGGGGGGTGGCAGACGATGTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | CCGGAGCTGGTCCTGGGTACACGGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCTGCGGCGCACGGCCAGCGCCCCGACCAAGAGCCAGAAGCCGGGCCGGCAGGGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCCTGCGGCGCACGGCCAGGCGCCCGACAAGAGCCAGAAGCCCGGGCCGCAGGGGCTTC
                                                                                                                                                                                                                                                                                                                                                                GCCCCCTGCTGGGCCTGGACCCTCACGCTATCCCGGGGAGAAGCAGAGAGGCCCCCCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                               CCTGCAAGCAGGCAGCCAGTTCGCCAGCAGCCCCGGGCCCGGGCTGACTCACTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCCCGAGGTAAGGCGCCAGCTGCGGTGGCAGAGAGAAGAGCCCTGTGCGAGTGCGGCCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cccccedecccedaccrecrecedaadccccadeccadedecedeccedeaaccadcadc
                                                                                                                                                                                                                                                                                                              GGTCCTGGGGCCTGGAGGCAGGGTCCAGGCGGTAGCGGCTCCATGTCCTCGGACTCCAGC
                                                                                                                                                                                                                                                                                                                            GGTCCTGGGGCCTGGAGGCAGGGTCCAGGCGGTAGCGGCTCCATGTCCTCGGACTCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGATICCTGCGCCGGCGTGAACACCCGGGGGCCTGCAGAGGGAGCGGCCACCCAGCCCGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cererceregaceacceceeeccrecregeareaccecacarecateaaetereregre
              CCTTGGCTTGCCTGTGGCCCATAG 4058
                                                 CACGCCCTGGCATGGCTGGGCCTGGGTCACCTGCTGCTTCTGCGTGGACGGTGTCG
                                                                                                                                                                                                                      CAACCGGGGGCCCTGCAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGATC
                                                                                                                                                                                                                                                         GCCCCTGCTGTGGCCTGGACCCTCACGCTATCCCCGGGGAGAAGCAGAGAGGCCCCCCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                 CCTTGGCTTGCCTGTGGCCCATAG 3624
                                                                  CCTCGTGTGCTCGTGCTCGTGTGTATCCGTGGCACTGTCTCCGTGGCACTCTGCTC 4034
                                                                                                     CACGCCCTGGCATGGCTGGGCTGGGTCACCTGCTGCTGCTTGCGTGGACGGTGTCG
                                                                                                                                                     AGGAGTAAATCCCCCATGTTCTCCGCCGGTAAGCCCCTCTTGCCCTGCGTGGTCCTCCCG
                                                                                                                                                                        AGGAGTAAATCCCCCATGTTCTCCGCCGGTAAGCCCCTCTTGCCCTGCGTGGTCCTCCCG
                                                                                                                                                                                                      CAACCGGGGGCCCTGCAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2880
                                                       3600
                                                                                                                                3974
                                                                                                                                                         3480
                                                                                                                                                                                   3914
                                                                                                                                                                                                           3420
                                                                                                                                                                                                                                     3854
                                                                                                                                                                                                                                                               3360
                                                                                                                                                                                                                                                                                        3794
                                                                                                                                                                                                                                                                                                                  3300
                                                                                                                                                                                                                                                                                                                                          3734
                                                                                                                                                                                                                                                                                                                                                                   3240
                                                                                                                                                                                                                                                                                                                                                                                           3674
                                                                                                                                                                                                                                                                                                                                                                                                                     3180
                                                                                                                                                                                                                                                                                                                                                                                                                                             3614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2940
                                                                                                         3540
```

Db 3601 CCTTGGCTTGCCTGTGGCCCATAG 3624

RESULT 3
US-09-954-456-1912/c
US-09-954-456-1912/c
Sequence 1912, Application US/09954456
Patent No. US20020115057A1
GENERAL INFORMATION:
FORUM, Paul
TITLE OF INVENTION: Process for Identifying Anti-Cancer Therapeutic Agents Using
TITLE OF INVENTION: Sets
FITE REFERENCE: 689290-76
CURRENT APPLICATION NUMBER: US/09/954,456
CURRENT FILING DATE: 2001-09-18

Cance

밁

2701

GGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCCCGGCCCCGGCCCTCCGTTAGCCAGCGG

PRIOR APPLICATION NUMBER: US/60/233,617

2000-09-18

APPLICATION NUMBER: US/60/234,052 FILING DATE: 2000-09-20

APPLICATION NUMBER: US/60/234,923 FILING DATE: 2000-09-25

```
밁
                                     á
                                                                                                                                                          ; TYPE: DNA
; CRGANISM: Homo sapiens
; FEATURE;
; NAME/KEY: misc_feature
; LOCATION: (1) ... (498)
; OTHER INFORMATION: n = a,t,c or g
US-09-292-758-106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-292-758-106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-954-456-1912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 2276
SOFTWARE: PatentIn version 3.0
SEQ ID NO 1912
LENGTH: 426
Type: No.
                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 147
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 106, Application US/09292758
Publication No. US20020197602A1
GENERAL INFORMATION:
                                                                                  Matches
                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Burmer, Glenna C.
APPLICANT: Brown, Joseph P.
APPLICANT: LifeSpan BioSciences, Inc.
APPLICANT: LifeSpan BioSciences, Inc.
TITLE OF INVENTION: Nucleic Acid Sequences and Proteins
TITLE OF INVENTION: Associated With Aging
FILE REFERENCE: 017473-001110US
CURRENT APPLICATION NUMBER: US/09/292,758
CURRENT FILING DATE: 1999-04-14
EARLIER APPLICATION NUMBER: US 60/081,887
EARLIER FILING DATE: 1998-04-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIÓR APPLICATION NUMBER: US/60/235,711
PRIÓR FILING DATE: 2000-09-27
PRIÓR PPLICATION NUMBER: US/60/235,720
PRIÓR FILING DATE: 2000-09-27
PRIÓR APPLICATION NUMBER: US/60/235,840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3044 CATCTTCGTGCATGTGGCTG 3063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
ORGANISM: Homo sapiens
                                     3044 CATCTTCGTGCATGTGGCTG 3063
                                                                                                                                                                                                                                                                                                             ENGTH: 498
200 CATCTTCGTGCATGTGGCTG 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      234 CATCTTCGTGCATGTGGCTG 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                        Match 0.4%; Score 20; DB 9; Local Similarity 100.0%; Pred. No. 6.8; es 20; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/60/235,863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/60/235,638 FILING DATE: 2000-09-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/60/235,637 FILING DATE: 2000-09-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/60/235,134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000-09-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000-09-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0.4%; Score 20; DB 10; Length 426; L00.0%; Pred. No. 6.9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                            0,
                                                                                                                   Length 498;
                                                                            Indels
                                                                            0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; NAME/KEY: CDS
; LOCATION: (1).
US-09-815-242-7987
                                                                                                                                                                                                                                                                                                                                                          US-09-835-996A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-815-242-7987; Sequence 7987, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 5
                                                                                                                                                                                                                                                                                                  Sequence 7, Application US/09835996A Patent No. US20020142953A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 60/257,931
PRIOR FILING DATE: 2000-12-22
PRIOR APPLICATION NUMBER: 60/269,308
PRIOR FILING DATE: 2001-02-16
NUMBER OF SEQ ID NOS: 14110
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 7987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patent No. US20020061569A1 GENERAL INFORMATION:
                                                                                          APPLICANT:
                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Xu, H. Howard
TITLE OF INVENTION: Identification of Essential Genes in TITLE OF INVENTION: Prokaryotes
FILE REFERENCE: ELITA.011A
CURRENT APPLICATION NUMBER: US/09/815,242
CURRENT FILING DATE: 2001-03-21
PRIOR APPLICATION NUMBER: 60/191,078
PRIOR APPLICATION NUMBER: 60/191,078
PRIOR FILING DATE: 2000-03-21
PRIOR APPLICATION NUMBER: 60/206,848
PRIOR FILING DATE: 2000-05-23
PRIOR FILING DATE: 2000-05-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                              APPLICANT: Ballinger, Dennis APPLICANT: Loeb, Debra
FILE REFERENCE: 28110/35915A
                                                                        APPLICANT:
                                                                                                                               APPLICANT:
                                                      APPLICANT:
                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR FILING DATE: 2000-11-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR FILING DATE: 2000-10-23
PRIOR APPLICATION NUMBER: 60/253,625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: 60/242,578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: 60/207,727 PRIOR FILING DATE: 2000-05-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Haselbeck,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Pseudomonas aeruginosa FEATURE:
   PPLICANT: Qian, Xiahong
PPLICANT: Wang, Dunrui
PTLE OF INVENTION: MATERIALS AND METHODS RELATING TO LIPID METABOLISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 1530
                                                                                                                                                                                                                                                                                                                                                                                                                                 785 CCAGCAGCGAGGTGGCGCGC 804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    835 CCAGCAGCGAGGTGGCGCGC 854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          y Match
0.4%; Score 20;
Local Similarity 100.0%; Pred. No.
hes 20; Conservative 0; Mismatc
                                                                                                                                                                          Tang, ...
Zhou, Ping
Zhou, Ping
Zrich, Ryle
                                                                                                                                                                                                                   Loeb, Debra
Montgomery, Julie
Tang, Y. Tom
                                                                      Wehrman, Tom
Drmanac, Radoje
Ren, Feiyan
                                                                                                         Zhao, Qing
                                                                                                                                               Liu, Chenghua
Asundi, Vinod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wall, Daniel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Carr, Grant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Trawick, John D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ohlsen, Kari L.
Zyskind, Judith W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yamamoto, Robert T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ...(1530)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/09815242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Robert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 10;
5.9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          °.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1530;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
```

```
CURRENT APPLICATION NUMBER: US/09/835,996A
CURRENT FILING DATE: 2001-04-16
PRIOR APPLICATION NUMBER: US 60/197,137
PRIOR TILING DATE: 2000-04-14
PRIOR APPLICATION NUMBER: US 09/714,936
PRIOR FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR FILING DATE: 2000-09-22
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR APPLICATION NUMBER: US 09/531,451
PRIOR FILING DATE: 2000-06-20
                                                                                       밁
                                                                                                                             Ş
                                                                                                                                                                                                                                                              ; TYPE: DNA; ORGANISM: homo sapiens US-09-804-969-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-804-969-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-835-996A-7
RESULT 8
US-09-908-664-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn version 3.0 SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                         SEQ ID NO 14
LENGTH: 2289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 14, Application US/09804969
Patent No. US20020081595A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                    Query Match 0.4%; Score 20; DB 10; Best Local Similarity 100.0%; Pred. No. 5.6; Matches 20; Conservative 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Hu, Yi
APPLICANT: Nepomni
APPLICANT: Donoho
APPLICANT: Hilbun,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/09/804,969
CURRENT FILING DATE: 2001-03-13
PRIOR APPLICATION NUMBER: US 60/188,885
PRIOR FILING DATE: 2000-03-13
PRIOR APPLICATION NUMBER: US 60/189,693
PRIOR FILING DATE: 2000-03-15
NUMBER OF SEQ ID NOS: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Zambrowicz, Brian
APPLICANT: Sands, Arthur T.
TITLE OF INVENTION: No. US20020081595Alel Human Phospholipases and Polynucleotides En
FILE REFERENCE: LEX-0148-USA
                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Homo sapiens FEATURE:
NAME/KEY: CDS
LOCATION: (140)..(1840)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1130 receerrecerecadereca 1149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1521 TGCCGCTGCGTGGAGGTGGA 1540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENGTH: 1840
                                                                                                                                  1521 TGCCGCTGCGTGGAGGTGGA 1540
                                                                                       991 TGCCGCTGCGTGGAGGTGGA 1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Donoho, Gregory
Hilbun, Erin
Turner, C. Alexander Jr.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Turner,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nepomnichy, Boris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Abuin, Alejandro
Friedrich, Glenn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.4%; Score 20; DB 10; Length 1840; 100.0%; Pred. No. 5.7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                              0;
                                                                                                                                                                                                                    Length 2289;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                0
```

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; LENGTH: 2289
; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-908-664-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-917-800A-1339
; OTHER INFORMATION: Genbank Accession No. US20020119462A1 D42148 US-09-917-800A-1339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3, Application US/09908664 Patent No. US20020115178A1
                                                                                                                  PRIOR FILING DATE: 2001-07-09
NUMBER OF SEQ ID NOS: 1740
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 1339
LENGTH: 2573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: TSAI, FONG YIN
TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR FILLING DATE: 2000-07-17
NUMBER OF SEQ ID NOS: 24
NUMBER OF SEQ ID NOS: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1339, Application US/09917800A Patent No. US20020119462A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Meyers, Rachel
APPLICANT: Rudolph-Owen, Laura
APPLICANT: Tsai, Fong Yin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR FILING DATE: 2000-07-31
PRIOR APPLICATION NUMBER: US 60/222,880
PRIOR FILING DATE: 2000-11-02
PRIOR APPLICATION NUMBER: US 60/290,029
PRIOR FILING DATE: 2001-05-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 60/222,040 PRIOR FILING DATE: 2000-07-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILE REFERENCE: 44921-5038-US
CURRENT APPLICATION NUMBER: US/09/917,800A
CURRENT FILING DATE: 2001-07-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Mendrick, Donna APPLICANT: Porter, Mark
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: US 60/290,645
PRIOR FILING DATE: 2001-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: Molecular Toxicology Modeling
                                                                                                                                                                                                                                                                                                                       PRIOR FILING DATE: 2001-06-06
PRIOR APPLICATION NUMBER: US 60/297,457
PRIOR FILING DATE: 2001-06-13
                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: US 60/295,798
                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: US 60/292,336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1521 TGCCGCTGCGTGGAGGTGGA 1540
                                                 FEATURE:
                                                                      ORGANISM: Rattus norvegicus
                                                                                                  TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     991 TGCCGCTGCGTGGAGGTGGA 1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US 60/298,884
                                                                                                                                                                                                                                                 APPLICATION NUMBER: US 60/303,459
                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 2001-05-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             h 0.4%; Score 20; DB 10; Length 2289; Similarity 100.0%; Pred. No. 5.6; 20; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Elashoff, Michael
Gene Logic, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Johnson, Kory
Castle, Arthur
                                                                                                                                                                                                                                                                           2001-06-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
```

ORGANISM: homo sapiens

```
RESULT 11
US-09-804-969-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-908-664-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 10
US-09-908-664-1
                                                                                                                                                                                                                                                                                                                                          APPLICANT: Hu, Yi
APPLICANT: Nepomn
APPLICANT: Donohc
APPLICANT: Hilbur
APPLICANT: Turking
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 20, Applicace Sequence 20, Applicace Sequence 20, Applicace Sequence No. US20020081595A1
               SEQ ID NO 20
LENGTH: 2709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 20; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 1
                                                      APPLICATE: Sands, Arthur T.

APPLICANT: Sands, Arthur T.

APPLICATION: No. US20020081595A1el Human Phospholipases and Polynucleotides
FILE REFERENCE: LEX-0148-USA,
CURRENT APPLICATION NUMBER: US/09/804,969
CURRENT FILING DATE: 2001-03-13
PRIOR APPLICATION NUMBER: US 60/188,885
PRIOR FILING DATE: 2000-03-13
PRIOR APPLICATION NUMBER: US 60/189,693
PRIOR APPLICATION NUMBER: US 60/189,693
PRIOR FILING DATE: 2000-03-15
NUMBER OF SEQ ID NOS: 20

NUMBER OF SEQ ID NOS: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1, Application US/09908664
Patent No. US20020115178A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
FILE REFERENCE: 38155-2002.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILLING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR PILLING DATE: 2000-07-17
                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Millennium Pharmaceuticals, APPLICANT: Meyers, Rachel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: FastSEQ for Windows Version 4.0
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: CDS
LOCATION: (257)...(2545)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1521 TGCCGCTGCGTGGAGGTGGA 1540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1247 receerrecerecadereca 1266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ENGIH: 2629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1653 AGCTCAAGAAGCAGCTGGTG 1672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2686 AGCTCAAGAAGCAGCTGGTG 2705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Match 0.4%; Score 20; DB 10; Length 2629; Local Similarity 100.0%; Pred. No. 5.5; es 20; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                 Donoho, Gregory
Hilbum, Erin
Turner, C. Alexander Jr.
Abuin, Alejandro
Friedrich, Glenn
Tanhvorder Brian
                                                                                                                                                                                                                                                                                      Zambrowicz, Brian
                                                                                                                                                                                                                                                                                                                                                                                                              Nepomnichy, Boris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Application US/09804969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rudolph-Owen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fong Yin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.4%; Score 20; DB 10; Length 2573; 100.0%; Pred. No. 5.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Laura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                            En
```

```
RESULT 12
US-09-944-413-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-804-969-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: 09/866,028
PRIOR FILING DATE: 2001-05-25
PRIOR APPLICATION NUMBER: 60/667,411
PRIOR FILING DATE: December 3, 1997
PRIOR APPLICATION NUMBER: 60/069,334
PRIOR FILING DATE: December 11, 1997
PRIOR APPLICATION NUMBER: 60/069335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 6, Application US/09944413
Patent No. US20020156004A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                     PRIOR PRIOR PRIOR
                                                                                                                                                                                                                          PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
                                                                                                                                                                                                                                                                                  PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                     PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/944,413
CURRENT FILING DATE: 2001-09-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Baker, APPLICANT: Botst APPLICANT: Eaton
                                                                                                                                                                                                                                                                 PRIOR
                                                                                                                                                                                                                                                                                                                                                                          PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 60/069,696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: P2548P1C:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC TITLE OF INVENTION: ACIDS ENCODING THE SAME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1248 TGCCGCTGCGTGGAGGTGGA 1267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1521 TGCCGCTGCGTGGAGGTGGA 1540
                         APPLICATION NUMBER: 60/075,945
FILING DATE: February 9, 1998
APPLICATION NUMBER: 60/075,945
FILING DATE: February 25
APPLICATION
                                                                                     APPLICATION NUMBER: 60/074,086 FILING DATE: February 9, 1998 APPLICATION NUMBER: 60/074,092
                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 60/069,694
FILING DATE: December 16, 1997
APPLICATION NUMBER: 60/069,702
FILING DATE: December 16, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: December 11, 1997
APPLICATION NUMBER: 60/069,278
FILING DATE: December 11, 1997
               FILING DATE: February 25, 1998 APPLICATION NUMBER: 60/112,850
                                                                                                                                                                                                                                                                            FILING DATE: December 16, 1997 APPLICATION NUMBER: 60/069,870
                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: 60/069,425 FILING DATE: December 12, 1997
                                                                                                                                                                                                      APPLICATION NUMBER: 60/068,017
                                                                                                                                                                                                                            APPLICATION NUMBER: 60/069,873 FILING DATE: December 17, 1997
                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                    APPLICATION NUMBER: 60/070,440 FILING DATE: January 5, 1998
                                                                                                                                                                                     FILING DATE: December
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kljavin, Ivar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gurney, Austin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Godowski, Paul
Grimaldi, Christopher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Goddard, Audrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Roy, Margaret
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Napier,Mary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hillan, Kenneth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gerritsen, Mary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Filvaroff, Ellen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ferrara, Napoleone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eaton, Dan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Botstein, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kevin
   December
                                                                                                                                                                                                                                                                 December
                                                                                                                                                                                                                                                                                                                                                                          December
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2001-09-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.4%; Score 20;
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 10;
5.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 2709;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
```

```
PRIOR FILING DATE: September 16, 1998
PRIOR APPLICATION NUMBER: PCT/US98/25108
PRIOR APPLICATION NUMBER: 09/216,021
PRIOR APPLICATION NUMBER: 09/216,021
PRIOR APPLICATION NUMBER: 09/218,517
PRIOR FILING DATE: December 16, 1998
PRIOR PPLICATION NUMBER: 09/218,517
PRIOR APPLICATION NUMBER: 09/254,311
PRIOR APPLICATION NUMBER: 09/254,311
PRIOR FILING DATE: March 3, 1999
PRIOR FILING DATE: June 22, 1999
PRIOR PILING DATE: June 22, 1999
PRIOR APPLICATION NUMBER: PCT/US99/21090
PRIOR APPLICATION NUMBER: PCT/US99/28409
PRIOR PILING DATE: No. US20020156004Alember
PRIOR APPLICATION NUMBER: PCT/US99/28313
PRIOR APPLICATION NUMBER: PCT/US99/28301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; LENGTH: 3441
; TYPE: DNA
; ORGANISM: Homo Sapien
US-09-944-413-6
                                                                                                                                                                                                                                                                                                       RESULT 13
US-09-944-403-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 120
SEQ ID NO 6
                                                                                                                         APPLICANT: Baker, I
APPLICANT: Botste
APPLICANT: Eaton, I
APPLICANT: Ferrary
APPLICANT: Ferrary
APPLICANT: Ferrary
                                                                                                                                                                                                                                                            Sequence 6, Application US/09944403
Patent No. US20020165143A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                         GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR FILING DATE: December 1, 2000
PRIOR APPLICATION NUMBER: PCT/US01/06520
PRIOR FILING DATE: February 28, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
                                                             APPLICANT:
                                                                                                           APPLICANT:
                         APPLICANT:
                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                     3164 GCCCCCGGCCCGGCCCTCCG 3183
                                                                                                                                                                                                                                                                                                                                                                                            36 GCCCCCGGCCCGGCCCTCCG 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 60
APPLICATION NUMBER: 60
APPLICATION DATE: July 28,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: No. US20020156004Alember 30, APPLICATION NUMBER: PCT/US99/28313 FILING DATE: No. US20020156004Alember 30,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: PCT/US00/08439
FILING DATE: March 30, 2000
APPLICATION NUMBER: PCT/US00/14042
FILING DATE: May 22, 2000
APPLICATION NUMBER: PCT/US00/20710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: PCT/US00/03565
FILING DATE: February 11, 2000
APPLICATION NUMBER: PCT/US00/04414
FILING DATE: February 22, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: December1, 1999
APPLICATION NUMBER: PCT/US99/30095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: July 20 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: PCT/US00/05841
FILING DATE: March 2, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: PCT/US00/32678
                                                                                                                                                                                                                                         INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   h 0.4%; Score 20;
Similarity 100.0%; Pred. No.
20; Conservative 0; Mismatc
                                           Godowski,Paul
Grimaldi,Christopher
                                                                                                           Filvaroff, Ellen
Gerritsen, Mary
                                                                                    Goddard, Audrey
                                                                                                                                                                           Eaton, Dan
                                                                                                                                                                                           Botstein, David
Hillan, Kenneth
                  Gurney, Austin
                                                                                                                                                       Ferrara, Napoleone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  No. US20020156004A1ember 30, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            December 22, 1998
                                                                                                                                                                                                                       Kevin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 July 28,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                December
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60/146,222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PCT/US98/19330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 3441;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR FILING DATE: DECEMBER: 60/069,425
PRIOR FILING DATE: DECEMBER 12, 1997
PRIOR FILING DATE: DECEMBER: 60/069,696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/944,403
CURRENT FILING DATE: 2001-09-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC TITLE OF INVENTION: ACIDS ENCODING THE SAME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: 09/866,028
PRIOR FILING DATE: 2001-05-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILE REFERENCE: P2548P1C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE: December 11, 199
APPLICATION NUMBER: 60/069335
FILING DATE: December 11, 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 60/067,411 FILING DATE: December 3, 1997 APPLICATION NUMBER: 60/069,334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/113,296
FILING DATE: December 22, 1998
APPLICATION NUMBER: 60/146,222
FILING DATE: July 28, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: February 25, 1998
APPLICATION NUMBER: 60/112,850
FILING DATE: December 16, 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: February 9, 1998
APPLICATION NUMBER: 60/074,092
APPLICATION February 9, 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RILING DATE: December 16, 1997
APPLICATION NUMBER: 60/069,870
FILING DATE: December 17, 1997
APPLICATION NUMBER: 60/069,873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: 60/
FILING DATE: December 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 60/069,278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: 60/069,702
                      RILLING DATE: December 16, 1999
APPLICATION NUMBER: PCT/US00/03565
FILING DATE: February 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: PCT/US98/19330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 60/075,945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: January 5, APPLICATION NUMBER: 60,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 60/070,440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 60,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 60/069,694
                                                                                                                    FILING DATE: September 15, 1999
APPLICATION NUMBER: PCT/US99/28409
FILING DATE: No. US20020165143ALember 30, 1999
APPLICATION NUMBER: PCT/US99/28313
FILING DATE: No. US20020165143ALember 30, 1999
APPLICATION NUMBER: PCT/US99/28301
FILING DATE: December1, 1999
FILING DATE: December1, 1999
                                                                                                                                                                                                                                                                                                                                         FILING DATE: December 22, 1998
APPLICATION NUMBER: 09/254,311
FILING DATE: March 3, 1999
                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 09/218,517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: September 16, 1998
APPLICATION NUMBER: PCT/US98/25108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                FILING DATE: December1, 1999
APPLICATION NUMBER: PCT/US99/30095
                                                                                                                                                                                                                                                                            FILING DATE: June 22, 1999
APPLICATION NUMBER: PCT/US99/21090
                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 09/216,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
                APPLICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Napier, Mary
Roy, Margaret
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kljavin, Ivar
             NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      December 17,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           December
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              December
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60/074,
                                                                                                                                                                                                                                                                                                                         PCT/US99/12252
                  PCT/US00/04414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12, 1997
0/069,696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               068,017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1998
```

밁 δ

```
RESULT | 14
US-09-944-896-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-944-403-6
                                          PRIOR FILING DATE: December 11, 1997
PRIOR APPLICATION NUMBER: 60/069, 425
PRIOR FILING DATE: December 12, 1997
PRIOR PRILING DATE: December 16, 1997
PRIOR FILING DATE: December 16, 1997
PRIOR FILING DATE: December 16, 1997
PRIOR APPLICATION NUMBER: 60/069,694
PRIOR FILING DATE: December 16, 1997
PRIOR APPLICATION NUMBER: 60/069,702
PRIOR FILING DATE: December 16, 1997
PRIOR FILING DATE: December 16, 1997
PRIOR FILING DATE: December 16, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 6, Application US/09944896 Patent No. US20020168715A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: WOOD, WILLIAM
TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC TITLE OF INVENTION: ACIDS ENCODING THE SAME
FILE REFERENCE: P2548P1C1
CURRENT APPLICATION NUMBER: US/09/944,896
CURRENT FILING DATE: 2001-08-31
PRIOR APPLICATION NUMBER: 09/866,028
PRIOR APPLICATION NUMBER: 09/869,334
PRIOR APPLICATION NUMBER: 60/069,334
PRIOR APPLICATION NUMBER: 60/069,334
PRIOR FILING DATE: December 11, 1997
PRIOR FILING DATE: December 11, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: 60/069335
PRIOR FILING DATE: December 11, 1997
PRIOR APPLICATION NUMBER: 60/069,278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Baker,
APPLICANT: Botst
APPLICANT: Eaton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR FILING DATE: December 1, 2000
PRIOR APPLICATION NUMBER: PCT/US01/06520
PRIOR FILING DATE: February 28, 2001
NUMBER OF CELTIFIC FEBRUARY 28, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: DNA
ORGANISM: Homo Sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3164 GCCCCCGGCCCGGCCCTCCG 3183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ENGTH: 3441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OR FILING DATE: February 22, 2000
OR APPLICATION NUMBER: PCT/US00/05841
OR FILING DATE: March 2, 2000
OR APPLICATION NUMBER: PCT/US00/08439
OR FILING DATE: March 30, 2000
OR APPLICATION NUMBER: PCT/US00/14042
OR FILING DATE: May 22, 2000
OR APPLICATION NUMBER: PCT/US00/20710
OR APPLICATION NUMBER: PCT/US00/20710
OR FILING DATE: July 28, 2000
OR APPLICATION NUMBER: PCT/US00/32678
OR APPLICATION NUMBER: PCT/US00/32678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        y Match 0.4%; Score 20; DB 9; Local Similarity 100.0%; Pred. No. 5.3; hes 20; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         36 GCCCCCGGCCCGGCCCTCCG 55
APPLICATION NUMBER: 60/069,870 FILING DATE: December 17, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Godowski, Paul
Grimaldi, Christopher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Roy, Margaret
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Napier, Mary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kljavin, Ivar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hillan, Kenneth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gurney, Austin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gerritsen, Mary
Goddard, Audrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Filvaroff, Ellen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Botstein, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ferrara, Napoleone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kevin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 3441;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
```

```
망
                                        ş
                                                                                                                                                                 US-09-944-896-6
                                                                               Matches
                                                                                                                                                                                                                                                   SEQ ID NO 6
                                                                                                     Best Local
                                                                                                                        Query Match
                                                                                                                                                                                                                                                               PRIOR FILING DATE: February 28, 2001
NUMBER OF SEQ ID NOS: 120
                                                                                                                                                                                  TYPE: DNA ORGANISM: Homo Sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: 60/074,092
PRIOR FILING DATE: February 9, 1998
PRIOR APPLICATION NUMBER: 60/075,945
PRIOR FILING DATE: February 25, 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR FILING DATE: January 5, 1998
PRIOR APPLICATION NUMBER: 60/074,086
                                      3164 GCCCCCGGCCCGGCCCTCCG 3183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: 60/070,
                                                                                                                                                                                                                           CENGTH: 3441
    36
                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: PCT/US00/14042
FILING DATE: May 22, 2000
APPLICATION NUMBER: PCT/US00/20710
FILING DATE: July 28, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: PCT/US00/05841
FILING DATE: March 2, 2000
APPLICATION NUMBER: PCT/US00/08439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: December1, 1999
APPLICATION NUMBER: PCT/US99/30095
FILING DATE: December 16, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: September 15, 1999
APPLICATION NUMBER: PCT/US99/28409
FILING DATE: No. US20020168715A1ember 30, 1999
APPLICATION NUMBER: PCT/US99/28313
FILING DATE: No. US20020168715A1ember 30, 1999
APPLICATION NUMBER: PCT/US99/28301
                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: PCT/US01/06520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: PCT/US98/25108
FILING DATE: December 1 1000
                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: PCT/US00/32678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: PCT/US99/12252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 6
FILING DATE: July 28,
                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: March 30,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: February
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: PCT/US00/04414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: February 11,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: PCT/US00/03565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: June 22, 1999
APPLICATION NUMBER: PCT/US99/21090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 60/113,296 FILING DATE: December 22, 1998
GCCCCCGGCCCGGCCCTCCG 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 0 FILING DATE: March 3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 09/218,517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 09/216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: PCT/US98/19330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 60/112,850
FILING DATE: December 16, 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 60/068, FILING DATE: December 18, 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 60/069,873 FILING DATE: December 17, 1997
                                                                                                  Similarity
                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         December
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  December
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              February
                                                                      100.0%; ++
                                                                           0.4%; Score 20; DB
100.0%; Pred. No. 5.3
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09/254,311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60/146,222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1999
                                                                                                                  DB 9;
                                                                                                .
γ
                                                                             0; Indels
                                                                                                                  Length 3441;
                                                                             0
                                                                           Gaps
                                                                           0
```

```
TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC TITLE OF INVENTION: ACIDS ENCODING THE SAME FILE REFERENCE: P2548P1C1
CURRENT APPLICATION NUMBER: US/09/944,944
CURRENT FILING DATE: 2001-09-26
PRIOR APPLICATION NUMBER: 09/86,028
PRIOR FILING DATE: D01-05-25
PRIOR APPLICATION NUMBER: 60/067,411
PRIOR APPLICATION NUMBER: 60/067,411
PRIOR APPLICATION NUMBER: 60/069,334
PRIOR FILING DATE: December 1, 1997
PRIOR APPLICATION NUMBER: 60/069335
PRIOR FILING DATE: December 11, 1997
PRIOR APPLICATION NUMBER: 60/069,278
PRIOR FILING DATE: December 11, 1997
PRIOR APPLICATION NUMBER: 60/069,425
PRIOR FILING DATE: December 12, 1997
PRIOR APPLICATION NUMBER: 60/069,425
PRIOR FILING DATE: December 12, 1997
PRIOR APPLICATION NUMBER: 60/069,696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-944-944-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 6, Application US/09944944
Patent No. US20020173463A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Baker,
APPLICANT: Botsto
APPLICANT: Eaton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                             OR APPLICATION NUMBER: PCT/US98/25108
OR APPLICATION NUMBER: PCT/US98/25108
OR FILING DATE: December 1, 1998
FOR APPLICATION NUMBER: 09/216, 021
FOR FILING DATE: December 16, 1998
FOR APPLICATION NUMBER: 09/218,517
FOR FILING DATE: December 22, 1998
FOR FILING DATE: December 22, 1998
FOR FILING DATE: December 23, 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE: December 17, 1997
APPLICATION NUMBER: 60/069,873
FILING DATE: December 17, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 60/
FILING DATE: December 1
                                                                                                                                                                                                                                                                            FILING DATE: December 16, 1998
APPLICATION NUMBER: 60/113,296
FILING DATE: December 22, 1998
APPLICATION NUMBER: 60/146,222
FILING DATE: July 28, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: February 25, 1998 APPLICATION NUMBER: 60/112,850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/075,945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: February 9, 1998 APPLICATION NUMBER: 60/074,092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 60/070,440 FILING DATE: January 5, 1998 APPLICATION NUMBER: 60/074,086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/068,017 FILING DATE: December 18, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 60/
FILING DATE: December 22, APPLICATION NUMBER: 09/254 FILING DATE: March 3, 1999
                                                                                                                                                                                                                                                  APPLICATION NUMBER: PCT/US98/19330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wood, William
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Roy, Margaret
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Napier, Mary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kljavin, Ivar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hillan, Kenneth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gurney, Austin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Grimaldi, Christopher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Godowski, Paul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Goddard, Audrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gerritsen, Mary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Filvaroff, Ellen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ferrara, Napoleone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eaton, Dan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Botstein, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kevin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    February
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9, 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /069,694
16, 1997
/069,702
16, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /069,870
17, 1997
```

```
; LENGTH: 3441
; TYPE: DNA
; ORGANISM: Homo S
US-09-944-944-6
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO
                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                       Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR FILING DATE: September 15, 1999
PRIOR APPLICATION NUMBER: PCT/US99/28409
PRIOR FILING DATE: NO. US20020173463Alember 30,
PRIOR APPLICATION NUMBER: PCT/US99/28313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
                                                                                                  3164 GCCCCCGCCCGGCCCTCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OR APPLICATION NUMBER: PCT/US00/05841
OR FILING DATE: MATCH 2, 2000
OR APPLICATION NUMBER: PCT/US00/08439
OR FILING DATE: MATCH 30, 2000
OR APPLICATION NUMBER: PCT/US00/14042
OR FILING DATE: MAY 22, 2000
OR APPLICATION NUMBER: PCT/US00/20710
OR APPLICATION NUMBER: PCT/US00/20710
OR APPLICATION NUMBER: PCT/US00/32678
OR FILING DATE: July 28, 2000
OR APPLICATION NUMBER: PCT/US00/32678
OR FILING DATE: December 1, 2000
OR FILING DATE: December 1, 2000
     36
                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             POS OTTO DATE: February 28 OTTO DATE: Februar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: No. US20020173463A1ember 30, 1999
APPLICATION NUMBER: PCT/US99/28301
FILING DATE: December1, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: PCT/US99/12252
FILING DATE: June 22, 1999
APPLICATION NUMBER: PCT/US99/21090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: PCT/US99/30095
FILING DATE: December 16, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: February 11, 2000
APPLICATION NUMBER: PCT/US00/04414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: PCT/US00/03565
FILING DATE: February 11, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE: February
     GCCCCCGGCCCGGCCCTCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OF SEQ ID NOS: 120
                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                0.4%; Score 20;
100.0%; Pred. No.
tive 0; Mismatch
                                                                                                             3183
                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                            DB 9;
5.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1999
                                                                                                                                                                                                                                                                                                                              Length 3441;
                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                           0,
```

Search completed: March 29, 2003, 17:03:25
Job time : 513 secs

				
		•		
 <u>,</u> 3				
* , #				

```
Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Word size :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-927-112-2
1207
1 MAPPTAGPLPGPALPPEDPG.....ALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A_Geneseq_101002:*
1: /SIDS2/acad=+-/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      908470 seqs, 133250620 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OLIGO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    March 28, 2003, 13:52:40 ; Search time 81 Seconds
         10:
11:
12:
13:
14:
15:
16:
17:
17:
19:
20:
21:
22:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                 //SIDS2/gcgdata/geneseq/geneseqp emb1/AA1980.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp emb1/AA1980.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp emb1/AA1990.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp emb1/AA1991.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp emb1/AA1992.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp emb1/AA1993.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp emb1/AA1994.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp emb1/AA1994.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp emb1/AA1995.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp emb1/AA1997.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp emb1/AA1997.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp emb1/AA1999.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp emb1/AA1999.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp emb1/AA1999.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                      /SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1980.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1981.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1982.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1985.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1987.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1987.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA2001.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA2002.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (without alignments)
1985.599 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 908470
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

10 14	9 22	8 23	7 23	6 23	5 23	4 83	3 371	2 613	1 996	Result (
1.2	1.8	1.9	1.9	1.9	1.9	6.9	30.7	50.8	82.5	Query Match
1054	682	1014	787	787	466	178	1619	621	1239	Query Match Length DB
23	22	23	23	22	22	23	23	23	23	DB
AAU11619	ABG13670	ABB08001	AAE14673	ABG13669	AAB95125	ABG59980	AAU77498	ABB07493	ABB08205	ID
P. patens signal t	Novel human diagno	Human lipid metabo	Human phosphatidyl	Novel human diagno		Human DITHP polype	Human lipid metabo	Human lipid metabo	Human lipid metabo	Description

00000000000000000000000000000000000000	11 12 13 13 14 14 15 16 17 18
100000000000000000000000000000000000000	13 13 13 13 13 13
	11111111111
639 666 731 759 762 762 762 762 762 762 762 762 762 762	119 119 119 119 119 214 214 214 214 214 306 340
22222222222222222222222222222222222222	2222222222
AAB94695 ABG07492 AAB14270 AAB14270 AAB14270 AAB14269 AAB14269 AAB1808008 AAM90177 AAM90177 ABM1191 AAU87515 AAU87515 AAU87515 AAU87515 ABB13367 AAB14269 ABB04327 AAB94052 AAB60735 AAB131101 ABB07352 AAB607352 AAB60735	AAU87634 ABB17239 AAU17072 AAM43643 AAU87352 AAM43569 AAE13105 AAE11930 AAE11930 AAE11930
protein se human diag lipid mett phospholli human phos phospholli phospholli phospholli phospholli lipid mett lipid mett protein SI lipid mett protein SI lipid mett central na human enz pancreas I human enz pancreas I central na human enz pancreas I posphoesi protein se central na human enz pancreas I phosphoesi protein se pospholi acid sequu phospholinos novel poll phospholinos	Novel central nerv Human nervous syst Novel signal trans Human polypeptide Novel central nerv Human polypeptide Human PLC 16336 pr Human protein segu Human CG121 (or C5 Human CG121 (or C5

ALIGNMENTS

```
RESULT 1
ABB08205
                                                                                                               ABB08205 standard; Protein; 1239
Human lipid metabolism enzyme-5 (LME-5).
                                    04-MAR-2002 (first entry)
                                                                             ABB08205;
```

Human; LME-5; lipid metabolism enzyme-5; cytostatic; neuroprotective; immunosuppressive; anti-inflammatory; cardiovascular; gene therapy; enzyme therapy; cancer; neurological disorder; autoimmune disorder; inflammatory disorder; cardiovascular disorder.

Homo sapiens.

WO200185956-A2

15-NOV-2001.

11-MAY-2001; 2001WO-US15210

11-MAY-2000; 2000US-203511P. 25-MAY-2000; 2000US-207903P. 07-JUN-2000; 2000US-210150P. 23-JUN-2000; 2000US-213392P.

(INCY-) INCYTE GENOMICS INC.

Khan FA, Ding L, Das D, Reddy R, Yao MG, Nguyen DB, Lu Y, Tribouley CM, Yue H A, Gandhi AR, Au-young J, Lal P, Kearney L, Elliott VS; Thornton M;

```
Q
                                                                              밁
                                                                                                                δÃ
                                                                                                                                                     В
                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
     ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The sequence represents a novel human lipid metabolism enzyme (LME-5) of CC the invention. The invention relates to novel human LME's, and the polynucleotides which identify and encode them. The enzymes of the invention have cytostatic, neuroprotective, immunosuppressive, and inti-inflammatory, and cardiovascular activity. The polypeptides and polynucleotides have a use in gene therapy and enzyme therapy. The lipid metabolism enzymes are useful in the diagnosis, treatment and prevention of cancer, neurological disorders, autoimmune/inflammatory disorders, and in the assessment of the effects of exogenous compounds on the expression of nucleic acid and amino acid sequences of lipid metabolism enzymes. LMEs may also be used to screen for compounds that modulate the activity of LME. Polynucleotides encoding Juantify gene expression in biopsied tissues in which expression of LME may be correlated with disease, to generate a transcript image of a tissue or cell type, to generate hybridization probes useful in mapping the naturally occurring genomic sequence, and for screening libraries of compounds in drug screening techniques. The polypeptide sequences may be used to analyse the proteome of a tissue or cell type. Oligonucleotide polymorphisms.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New lipid metabolism enzymes useful for diagnosing, treating and preventing cancer, neurological disorders, autoimmune/inflammatory disorders, and cardiovascular disorders
     724
                                                                                664
                                                                                                                                                       604
                                                                                                                                                                                          572
                                                                                                                                                                                                                                 544
                                                                                                                                                                                                                                                                       512
                                                                                                                                                                                                                                                                                                          484
                                                                                                                                                                                                                                                                                                                                              452
                                                                                                                                                                                                                                                                                                                                                                                   424
                                                                                                                                                                                                                                                                                                                                                                                                                      392
                                                                                                                                                                                                                                                                                                                                                                                                                                                            364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  272 VTLESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSDAGDIFNPEHHHVHQDMTQPLSHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 1; Page 114-116; 122pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           212 EADTDDHQGTLGFEEECAFYKMMSTRRDLYLLMLTVSNHKDHLDAASLQRFLQVEQKMAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              equence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                letect single nucleotide polymorphisms.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Match
                   QPFWNAGCQMVALNYQSEGRWLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQ 751
                                                                                              VATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNP
                                                                                                                                                                     VVGSFSRRKKKGSKLKKAASVEEGDEGDSPGGQSRGATRQKKTMKLSRALSDLVKYTKS
                                                                                                                                                                                                                                             TAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRL
                                                                                                                                                                                                                                                                                                                    LPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVEN 511
                                                                                                                                                                                                                                                                                                                                                                         FKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATT
                                                                                                                                                                                                                                                                                                                                                                                               FKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATT 451
QPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQ
                                                                          VATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNP
                                                                                                                                               VYGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKS
                                                                                                                                                                                                                          TAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRL
                                                                                                                                                                                                                                                                                                    LPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                  FITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EADTDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VTLESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2002-089794/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ŗ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    82.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 996; DB; Pred. No. 0; O; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
783
                                                                                                                                                 663
                                                                                                                                                                                      631
                                                                                                                                                                                                                          603
                                                                                                                                                                                                                                                             571
                                                                                                                                                                                                                                                                                                  543
                                                                                                                                                                                                                                                                                                                                                                                                                                                      423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
```

```
Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABB07493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QY
                                                                                                                                    07-JUL-2000;
07-JUL-2000;
14-JUL-2000;
21-JUL-2000;
26-JUL-2000;
                                                                         Tang
                     WPI; 2002-164631/21
                                                              Yue
                                                                                                                                                                                                                 06-JUL-2001; 2001WO-US21432
                                                                                                                                                                                                                                                                     WO200204490-A2
                                                                                                                                                                                                                                                                                                                               Lipid metabolism molecule; LAM; cytostatic; nootropic; neuroprotectiv anticonvulsant; immunosuppressive; anti-inflammatory; dermatological; cardiovascular; antiHIV; antiemetic; antiallergic; hypertensive; huma
                                                                                                                                                                                                                                                                                                                                                                                   Human lipid metabolism molecule (LMM) polypeptide (ID:
                                                                                                                                                                                                                                                                                                                                                                                                                23-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABB07493 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1204 AAASAWIVSPRVLVLVALYPWHCLRGTLLPWLACGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1024
                                                                                                                                                                                                                                                                                                                                                             Lipid metabolism molecule; LMM;
                                                                                                                                                                                                                                            17-JAN-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      752
                                                            Ή
                                                                       YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGPGSP 1171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRARADSLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSDDSPGIPERS 1111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAASAWIVSPRVLVLVALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGPGSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRARADSLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIPERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KSPVRVRPPRVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KSPYRVRPPRVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQ 1051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SQKPGRRGFPELVLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGPGSGSPRGKAPAAVAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TWEETLVEMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEGMEEASI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TWEETLYFMYHMPEIALYRFLYWDHDPIGRDFIGQRTLAFSSMMPGYRHYYLEGMEEASI
                                                           Gandhi AR,
                                                                                                 INCYTE GENOMICS
                                                      Azimzai Y, Das
                                                                                                                        2000US-216801P.
2000US-216803P.
2000US-218233P.
2000US-220046P.
2000US-220739P.
2000US-222824P.
                                              Patterson
                                                                                                                                                                                                                                                                                                                      therapy; protein therapy
                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                 INC
                                                                         Ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 621
                                                        Thornton M, I
Khan FA, Lu
                                            nton M, Lu DAM, Tri
n FA, Lu Y, Yao MG,
Ramkumar J, Nguyen I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1239
                                            Nguyen DB,
                                                                     Tribouley CM;
                                                                                                                                                                                                                                                                                                                                                         neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                                   2965233CD1).
                                           Hafalia AJA;
3, Baugn MR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                871
```

N-PSDB;

ABA94696

밁

602 SPGGQSRGATRQK 614

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention provides human lipid metabolism molecule (LMM) polypeptides CC and polynucleotides. The LMM polypeptides can be expressed by standard CC recombinant methodology. The LMM polypeptides are useful for diagnosing CC or treating a condition or disease associated with the expression of LMM. CC or screening for compounds that specifically bind to or modulate the CC activity or expression of LMM. They are also used to generate antibodies activity or expression of LMM. They are also used to generate antibodies CC and assess the toxicity of test compounds. The LMM polypeptides, CC medianoma or preventing cancers (e.g. activity useful for diagnosing, CC treating or preventing cancers (e.g. acenocarcinoma, leukemia, lymphoma, CC cerebral neoplasms, Alzheimer's disease or pick's disease, autoimmune/CC or atherosclerosis), gastrointestinal disorders (e.g. epilepsy, stroke, CC or atherosclerosis), gastric carcinoma, anorexia or nausea), skin CC disorders (e.g. dermatitis, eczema, or scleroderma), and cardiovascular thromotomy of the processor of the compounds. They contend to the contend of the conte
                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                   뮹
                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                         밁
õ
                                           밁
                                                                                       õ
                                                                                                                                     밁
                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 613;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; Page 112-113; 128pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lipid metabolism molecules useful in diagnosing, treating or preventing cancers, and neurological , autoimmune/inflammatory, gastrointestinal,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      skin and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               thrombolysis). The present sequence represents a human LMM polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        122
                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                     302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
  601
                                                                                                                                        482
                                                                                                                                                                                   481
                                                                                                                                                                                                                                  422
                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                              362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MAPPTAGPLPGPALPPEDPGPDPESRWLFLSANILPVVERCMGAMQEGMQMVKLRGGSKG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGIDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YHGSHRESLDLVSTSSEVARTWYTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKN 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSI 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSI 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCS
                                                                                                                                                                                                                                                                                                                                                                                                                   GDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKN
                                                                                                                                                                EVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGIDG
SPGGQSRGATRQK 613
                                                SPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQD
                                                                                         SPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQD
                                                                                                                                        EVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cardiovascular disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                621 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          50.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 613; D; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 23; Length 621;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
```

```
٠.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 3
AAU77498
                                                                                                                                                                  밁
                        Ş
                                                      밁
                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23-AUG-2000;
08-SEP-2000;
15-SEP-2000;
29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; lipid metabolism enzyme; LMM-6; immune system disorder; neurological disorder; developmental disorder; cancer; nootropic; cell proliferative disorder; immunomodulator; neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAU77498 standard; Protein; 1619
                                                                                                                                                                                          treating or preventing disorders associated with aberrant expression of LMM, particularly immune system disorders (e.g. acquired immunodeficiency syndrome (AIDS), thymic hypoplasia, anaemia, asthma or Crohn's disease), neurological disorders (e.g. epilepsy, Huntington's disease, dementia or Parkinson's disease), developmental disorders (e.g. Down's syndrome) or cell proliferative disorders (e.g. cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma or sarcoma). The present sequence represents human LMM-6.
                                                                                                                                                                                                                                                                                                         The present invention relates to the isolation of human lipid metabolism enzymes (LMM) designated LMM-1 to LMM-6, and the polynucleotide sequences encoding them. The LMM polypeptides, polynucleotide sequences and antagonists are useful for diagnosing,
                                                                                                                                                                                                                                                                                                                                                                                                                       New lipid metabolism enzymes, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Griffin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200216597-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cytostatic; enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human lipid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-JUN-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAU77498;
 1214
                                                      1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Walia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22-AUG-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-FEB-2002
                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                        (e.g. cancers)
                          610 TRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRF 669
SKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGA 609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2002-280936/32.
                                                      SKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGA 1213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABK12390.
                                                                                                                                                                                                                                                                                                                                                                               Page 113-117; 122pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hafalia AJA,
                                                                                                                                                                    1619 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; 2000US-227429P.
; 2000US-231370P.
; 2000US-233212P.
; 2000US-236885P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              metabolism enzyme,
                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patterson C, Gau
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2001WO-US26365
                                                                                                                        30.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gandhi AR, Lu Y,
Ding L, Tribouley
                                                                                                                         Score 371; D; Pred. No. 0;
                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LMM-6
                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽.
                                                                                                                                         멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CM,
                                                                                                                                        23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Yao MG, 1
M, Das D,
                                                                                                             0,:
                                                                                                                                      Length 1619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Baughn MR;
                                                                                                               0,:
                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        X
```

```
RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                             06-SEP-2000;
06-SEP-2000;
06-SEP-2000;
06-SEP-2000;
06-SEP-2000;
                                                                                                                                                         06-SEP-2000;
06-SEP-2000;
06-SEP-2000;
06-SEP-2000;
06-SEP-2000;
                                                                                                                                                                                                                      05-SEP-2000;
05-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                        Human; DITHP; diagnostic and therapeutic polypeptide; bone; testis; skin; cell proliferative disorder; cancer; tumour; autoimmune disorder; brain; inflammatory disorder; viral infection; bacterial infection, seizure; fungal infection; parasitic infections; developmental disorder; breast; endocrine disorder; metabolic disorder; neurological disorder; cervix; gastrointestinal disorder; transport disorder; gene therapy; kinney;
                                                            06-SEP-2000;
                                                                       06-SEP-2000;
                                                                                                                                                                                                                                             05-SEP-2000;
05-SEP-2000;
                                                                                                                                                                                                                                                                                 5-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                         WO200220754-A2
                                                                                                                                                                                                                                                                                                         19-AUG-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1274
                                                                                                                                                                                                                                                                                                                                   .4-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABG59980;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABG59980 standard; Protein; 178 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               luman DITHP polypeptide #38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYV 1333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RPPARPSVSQR 1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AFSSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RPPARPSVSQR 920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AFSSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHNPEIALVRFLVWDHDPIGRDFIGQRTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDDFVEVEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NOQOLSRIYPSSYRVDSSNYNPQPFWNAGCQMYALNYQSEGRMLQLNRAKFSANGGCGYV
INCYTE
                                                                                                                                                                                                                                                                                                                                                                                                                    gland;
                                 2000US-230599P.
2000US-23061DP.
2000US-230865P.
2000US-23098BP.
2000US-23098P.
2000US-231163P.
                                                                                                       ; 2000US-229749P;
2000US-229750P;
2000US-229751P;
2000US-230583P;
2000US-230515P;
2000US-230515P;
2000US-230515P;
2000US-230517P;
2000US-230519P;
2000US-230519P;
2000US-230595P;
2000US-230598P;
2000US-230598P;
                                                                                                                                                                                                                                                                    2000US-229747P
2000US-229748P
                                                                                                                                                                                                                                                                                                        2001WO-US27127.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
GENOMICS
                                                                                                                                                                                                                                                                                                                                                                                                             marrow; lung; ovary; pancreas; prostate; spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     849
```

156

380 VHHGYTLTSKILFKDVIETINKY 402

VHHGYTLTSKILFKDVIETINKY 178

```
Query Match
Best Local
            Matches
                                                                                                          cell proliferative disorders (e.g. atherosclerosis, cirrhosis), cancers (e.g. tumours of the adrenal gland, bone, bone marrow, brain, breast, cervix, kidney, lung, ovary, pancreas, prostate, skin, spleen, testis or thymus), autoimmune/inflammatory disorders (e.g. asthma, bronchitis, psoriasis, osteoporosis), viral infections, bacterial infections, fungal infections, parasitic infections, developmental disorders (e.g. anaemia, epilepsy), seizure disorders (e.g. cerebral palsy, spina bifida), endocrine disorders (e.g. thrombosis, naneurysm), metabolic disorders (e.g. obesity, diabetes), neurological disorders (e.g. stroke, amyotrophic lateral sclerosis, multiple sclerosis), gastrointestinal disorders (e.g. ulcerative colitis, lysinuria) and transport disorders (e.g. myotonic dystrophy, catatonia, peripheral neuropathy). Sequences (e.g. myotonic dystrophy, catatonia, peripheral neuropathy).
                                                                                                                                                                                                                                                                                                                                                              The invention relates to human diagnostic and therapeutic (dithp) polynucleotides and their associated polypeptides (DITHP polypeptides). The sequences of the invention are used in the treatment and diagnosis of
                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 An isolated polynucleotide useful in diagnostics and therapeutics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Jones AL, Yu
Momiyama MG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; ABK71572.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gerstin EH,
Marwaha R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Stuart J,
                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2002-383054/41.
        83;
                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lincoln SE, Altus CM, Dufour GD, Tiu TY, Yap PE, Yu JY, Wright RJ, Gietzen D, Liu TF, Yap PE, GO, Bradley DL, Rohatgi SD, Harris B, Roseberr GH, David MH, Panzer SR, Flores V, Peralta CH, David MH, Panzer SR, Flores V, Chang SC, Au AP, Inman RR;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Page 554; 686pp; English.
                                                                                    178 AA;
        Conservative
                      6.9%;
100.0%;
        0;
                        Score 83;
Pred. No.
    Mismatches
                    DB 23; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GE, Chalup MS, Hillm
Liu TF, Yap PE, Dah
rris B, Roseberry AM;
                                        Length 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hillman
  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dahl CR;
Gaps
  0
```

```
AAB95125
                                                                                                                                                                                                          RESULT
              29-JUL-1999;
27-AUG-1999;
11-JAN-2000;
02-MAY-2000;
09-JUN-2000;
                                                              28-JUL-2000;
                                                                             07-FEB-2001.
                                                                                            EP1074617-A2.
                                                                                                                          Human; primer;
                                                                                                                                         Human protein sequence SEQ ID NO:17124.
                                                                                                                                                          26-JUN-2001
                                                                                                                                                                           AAB95125;
                                                                                                                                                                                        AAB95125 standard; Protein;
HELIX RES
             2000JP-0118776.
2000JP-0183767.
2000JP-0241899.
                                                             2000EP-0116126
                                                                                                                                                        (first entry)
                                                                                                                      detection; diagnosis; antisense therapy; gene therapy
                                      99JP-0300253
                                           99JP-0248036
                                                                                                                                                                                        466 AA
```

```
δã
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of an oligonucleotide comprising a sequence complementary to the complementary strand of a polynucleotide which comprises a 5 -end cc sequence and an oligonucleotide comprising a sequence complementary to a polynucleotide which comprises a 3 -end sequence, where the polynucleotide which comprises at least 15 nucleotides and the combination of ct the specification. The primer sets can be used in antisense therapy and the specification. The primers are useful for synthesising polynucleotides, and the combination of ct particularly full-length cDNAs. The primers are also useful for the comprises at least 15 nucleotides, and characteristic and/or diagnosis of the abnormality of the proteins encoded by the full-length cDNAs. The primers allow obtaining of the full-length cDNAs easily without any specialised methods. AAH03166 to AAH13632 compresent human amino acid sequences; and AAH13629 to AAH13632 crepresent oligonucleotides, all of which are used in the exemplification.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ota T, I
Ishii S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Primer sets for synthesizing polynucleotides, particularly the 5602 full-length cDNAs defined in the specification, and for the detection and/or diagnosis of the abnormality of the proteins encoded by the full-length cDNAs -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the 5602\ \text{nucleotide} sequences defined in the specification, where the oligonucleotide comprises at least 15 nucleotides; or (b) a combination
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention describes primer sets for synthesising 5602 full-length cDNAs defined in the specification. Where a primer set comprises: (a) an oligo-dT primer and an oligonucleotide complementary to the complementary strand of a polynucleotide which comprises one of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                     18-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                        ABG13669 standard; Protein; 787 AA
                                                                                                                                                                   WO200175067-A2
                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                   Novel human diagnostic protein #13660
                                               31-MAR-2000; 2000US-0540217
23-AUG-2000; 2000US-0649167
                                                                                                 30-MAR-2001; 2001WO-US08631.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          251 VHMPEIALVRFLVWDHDPIGRDF 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          821 VHMPEIALVRFLVWDHDPIGRDF 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the present invention.
                                                                                                                                                                                                                                   supplement;
                                                                                                                                                                                                                                   chromosome mapping; gene mapping;
upplement; medical imaging; diagnos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Isogai T,
, Sugiyama
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
               HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID 17124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              466 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nishikawa T,
T, Wakamatsu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2537pp + CD ROM; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wakamatsu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 23;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hayashi K,
ı A, Nagai K
                                                                                                                                                                                                                                     apping; gene therapy; forensic;
diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nagai K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 22; I
3.7e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Saito K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Otsuki T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Yamamoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
```

```
RESULT 7
AAE14673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to isolated polynucleotide (I) and CC polypeptide (II) sequences. (I) is useful as hybridisation probes, CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome CC and gene mapping, and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags CC for identifying expressed genes. (I) is useful in gene therapy techniques CC (II). (II) is useful in gene therapy techniques CC (II). (II) is useful for generating antibodies against it, detecting or CC (II). (II) is useful for generating antibodies against it, detecting or CC (II). (II) is useful in medical intissue, as molecular weight markers and as CC quantitating a polypeptide in tissue, as molecular weight narkers and as CC (Inaging of sites expressing (II). (I) and (II) are useful for treating CC (Inaging of sites expressing (II). (I) and (II) are useful for treating CC (Inaging of sites and polynucleotide sequences have applications in CC (Inaging the and polynucleotide sequences have applications in CC (Inaginostics, forensics, gene mapping, identification of mutations CC (Inaginostics, forensics, gene mapping, identification of mutations CC (Inaginostics) and (II) are useful for treating to assess blodiversity and to produce other types of data and products dependent on DNA and CC (Inaginostic amino acid sequences of the invention.

CC (Inaginostic amino acid sequences of the invention.

CC (Inaginostic amino acid sequences of the invention.

CC (Inaginostic amino acid sequences of the invention.

CC (Inaginostic amino acid sequences of the invention.
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Drmanac RT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 20; SEQ ID No 44028; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 biodiversity
                                                                                                                                                                                                                                                                                             Human; phosphatidylinositol-specific phospholipase C-like enzyme; PI-PLC-like enzyme; chromosome 3; asthma; cancer; central nervous system; CNS disorder; Parkinson's disease; dementia; COPD; protein therapy; chronic obstructive pulmonary disease; gene therapy; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                          Human phosphatidylinositol-specific phospholipase C-like enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAE14673 standard; Protein; 787 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-JUL-2002 (first entry)
                                      (FARB ) BAYER AG
                                                                               27-SEP-2000; 2000US-235552P
                                                                                                                           24-SEP-2001; 2001WO-EP11012.
                                                                                                                                                                      04-APR-2002
                                                                                                                                                                                                               WO200226996-A2
                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     584 VHMPEIALVRFLVWDHDPIGRDF 606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              821 VHMPEIALVRFLVWDHDPIGRDF 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2001-639362/73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                787 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tang YT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 23;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 22; I
. 6.1e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 787;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
```

```
ABB08001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to polynucleotide encoding human
C phosphatidylinositol-specific phospholipase C-like enzyme
C PI-PLC-like enzyme Human PI-PLC-like enzyme gene is located on
C chromosome 3. The PI-PLC-like enzyme polypeptide and
C polynucleotide may be used in the prevention, diagnosis and
C treatment of diseases associated with enzyme dysfunction,
C e.g. asthma, cancer, central nervous system (CNS) disorder (e.g.
C Parkinson's disease, dementia) and chronic obstructive pulmonary disease
(C(COPD). The polynucleotide and polypeptide may be used to treat
CC disorders associated with decreased PI-PLC-like enzyme expression by
rectifying mutations or deletions in a patient's genome that affect the
CC activity of PI-PLC-like enzymes, by expressing inactive proteons or to
CC supplement the patients own production of PI-PLC-like enzymes.
CC The polynucleotide and its complements may also be used
CC The polynucleotide and its complements may also be used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                 06-OCT-2000;
13-OCT-2000;
02-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           as DNA probes in diagnostic assays to detect and quantitate the presence of similar nucleic acids in samples. The PI-PLC-like enzyme may also be used as antigens in the production of antibodies and in assays to identify modulators of PI-PLC-like enzyme expression and activity. The anti-PI-PLC-like enzyme antibodies and antagonists may be used to down-regulate expression and activity of the enzyme and as diagnostic agents for detecting the presence of PI-PLC-like enzyme in samples. The present sequence is human phosphatidylinositol-specific phospholipase C-like enzyme.
08-NOV-2000;
                                                                                                                                                                                                                                            gene
                                                                                          )5-OCT-2001;
                                                                                                                                                                  O200229036-A2
                                                                                                                                                                                                                                               juman; lipid metabolism enzyme; IME; cytostatic; neuroprotective;
jootropic; cerebroprotective; antiparkinsonian; antialzheimers; vaccine;
antisclerotic; antimicrobial; anti-AIDS; cardiovascular; antianginal;
                                                                                                                                                                                                       lomo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                          нвовоо1;
                                                                                                                                                                                                                                                                                                                                                                                                                                           ABB08001 standard; Protein; 1014 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        821 VHMPEIALVRFLVWDHDPIGRDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Isolated polynucleotides encoding human phosphatidylinositol-specific phospholipase C-like enzymes, useful for preventing, diagnosing and treating e.g. asthma, cancer, a CNS disorder or chronic obstructive
                                                                                                                                                                                                                                                                                                                           uman lipid metabolism enzyme (LME)-1 (Id: 7472210CD1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 25; Fig 2; 125pp; English.
                                                                                                                               1-APR-2002.
                                                                                                                                                                                                                                                                                                                                                                       7-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       pulmonary disease –
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                      therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VHMPEIALVRFLVWDHDPIGRDF 606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2002-372128/40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAD31081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     787 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                         2001WO-US31302.
 2000US-247503P
               2000US-240616P.
2000US-245719P.
                                                    2000US-238388P
                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                      protein therapy; enzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 23;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6.1e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 23; Length 787;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
```

```
ABG13670
        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    encoding polynucleotides. The LME can be expressed by standard recombinant technology. The LME polypeptides, polynucleotides and modulators may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate LME expression such as cancer (e.g. myeloma, sarcoma and breast cancer), neurological disorders (e.g. Parkinson's, Alzheimer's and multiple sclerosis), microbial infections (e.g. Creutzfeld-Jakob disease and Acquired Immune deficiency syndrome (AIDS)) and/or cardiovascular disorders (e.g. cardiomyopathy, angina pectoris and mitral valve prolapse). The present sequence represents
New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations
                                                N-PSDB; AAS77857
                                                                                      Drmanac RT, Liu C,
                                                                                                                                                           31-MAR-2000; 2000US-0540217
                                                                                                                                                                                      30-MAR-2001; 2001WO-US08631
                                                                                                                                                                                                                                              WO200175067-A2
                                                                                                                  (HYSE-) HYSEQ
                                                                                                                                               23-AUG-2000;
                                                                                                                                                                                                                                                                                                              Human; chromosome mapping;
                                                                                                                                                                                                                                                                                                                                         Novel human diagnostic protein #13661.
                                                                                                                                                                                                                                                                                                                                                                                                                           ABG13670 standard; Protein; 682
                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                 food supplement;
                                                                                                                                                                                                                                                                                                                                                                     18-FEB-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to human lipid metabolism enzymes (LMEs) and encoding polynucleotides. The LMEs can be expressed by standard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 1; Page 110-113; 127pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lipid Metabolism Enzymes and nucleic acids, useful for preventing, diagnosing and treating e.g. cancer, Alzheimer's disease and Creutzfeld-Jakob disease -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            821 VHMPEIALVRFLVWDHDPIGRDF 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Harland L, ALL.
NK, Yao MG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-NOV-2000; 2000US-249503P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (INCY-) INCYTE GENOMICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                            2001-639362/73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VHMPEIALVRFLVWDHDPIGRDF 833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2002-315862/35.
DB; ABL60537.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tribouley CM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1014 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                              2000US-0649167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Arvizu C,
                                                                                                                                                                                                                                                                                              e mapping; gene mapping; gene therapy; forension medical imaging; diagnostic; genetic disorder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1.9%; oc.
100.0%; Pr
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ľ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Das D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Elliott VS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 23;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Griffin JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 23;
7.7e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JA, Baughn MR,
Thangavelu K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1014;
                                                                                                                                                                                                                                                                                                           forensic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ding L;
Ramkumar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
```

0;

diagnostics,

```
RESULT 10
AAU11619
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (II). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and amino acid sequences. ABG00010-ABG30377 represent novel human diagnostic amino acid sequences of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques to restore normal activity of (II) or to treat disease states involving
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         responsible for genetic disorders or other traits and to assess biodiversity \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Signal transduction stress-related protein; STSRP; PLC-1; PLC-2; 14-3-3P-1; 14-3-3P-2; CBP-1; phospholipase C; Ca2+ binding protein; transgenic plant; environmental stress; salinity; drought;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P. patens signal transduction stress-related protein PLC-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAU11619 standard; Protein; 1054 AA.
Costa Silva EO,
                                                                                 07-APR-2000;
                                                                                                                            06-APR-2001; 2001WO-US11398
                                                                                                                                                                                                                WO200177355-A2
                                                                                                                                                                                                                                                                                                   Misc-difference
                                                                                                                                                                                                                                                                                                                                            Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                         Physcomitrella patens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAU11619;
                                      (BADI ) BASE PLANT SCI GMBH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         775 GDRGEIIDPFVEVEIIGLPVDC 796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     64 GDRGEIIDPFVEVEIIGLPVDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20; SEQ ID No 44029; 103pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            682 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                     2000US-196001P
                                                                                                                                                                                                                                                    420..1054
/note= "Region not encoded by the cDNA sequence appearing as AAS17965"
Bohnert HJ,
                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                        'note= "Encoded by CAG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1.8%; J.
100.0%; Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 22;
Pred. No.
Van Thielen N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .6e-13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22;
Chen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 682;
    Ishitani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
```

0

Š 밁

```
Query Match
Best Local Similarity
Thes 14; Conserve
밁
                                                                                                                                                                                                                                    as compared to a wild type variety of the plant cell, a nucleic acid encoding an STSRP, and an expression vector comprising the nucleic acid. The STSRP and nucleic acids are useful for increasing tolerance to environmental stress selected from salinity, drought and low temperature, in transgenic plants including monocot and dicot selected from maize, wheat, rye, oat, triticale, rice, barley, soybean, peanut, cotton, rapeseed, canola, manihot, pepper, sunflower, tagetes, solanaceous plants, potato, tobacco, eggplant, tomato, Vicia species, pea, alfalfa, coffee, cacao, tea, Salix species, oil palm, coconut, perennial grass and forage crops. The nucleic acid is also useful for identifying organisms e.g. Physocomitrella patens in a mixed population of microorganisms, for evolutionary and protein structural studies and are useful as markers for specific regions of the genome. The present sequence represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (STSRP) isolated from Physcomitrella patens, and selected from Phospholipase C (PLC)-1 protein, PLC-2 protein, 14-3-3 protein (14-3-9b)-1, 14-3-3P-2 and Ca^2^+ Binding Protein (CBP)-1, or their orthologues. Also include are a transgenic plant transformed with an STSRP coding nucleic acid, where the expression of the nucleic acid in the plant cell results in increased tolerance to an environmental stress
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 3; Fig 3A; 101pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New polypeptide, useful for increasing tolerance to environmental stress, comprises a Signal Transduction Stress-Related Protein se from phospholipases, 14-3-3 proteins and calcium binding proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI;
                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; AAS17965
104 VHQDMTQPLSHYFI 117
                                        320 VHQDMTQPLSHYFI 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2002-049152/06.
                                                                                                                                                                                1054 AA;
                                                                                        Conservative
                                                                                                           1.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 to a Signal Transduction Stress-Related Protein
                                                                                        0;
                                                                                                             Score 14;
Pred. No.
                                                                                          Mismatches
                                                                                                             DB 23; I
0.00014;
                                                                                                                                     Length 1054;
                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   selected
```

```
AAU87634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 11
                                                                                                                                                                                                                                                                                hyperproliferative disorder; neoplasm; cardiovascular disorder; cardiac arrest; cerebrovascular disorder; ischaemia; angiogenesis; cardiac arrest; cerebrovascular disorder; ischaemia; angiogenesis; nervous system disorder; Alzheimer's disease; AIDS; ocular disorder; acquired immunodeficiency virus; dysphagia; gastrointestinal disorder; adenocarcinoma; reproductive system disorder; testicular feminisation; endocrine disorder; diabetes; cancer; leukaemia; neovascularisation;
                                                                                                                                                                                           endocrine disorder; diabetes; cancer; leukaemia; neovascularisation; respiratory disorder; renal disorder; kidney failure; blood disorder myocardial infarction; wound healing; cell proliferation; skin aging
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-JUN-2002
WO200155318-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Central nervous system; CNS; autoimmune disease; rheumatoid arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel central nervous system protein #544.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAU87634 standard; Protein; 119
                                                                                Homo sapiens
                                                                                                                                                                     food additive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                food preservative;
                                                                                                                                                                     gene therapy.
```

31-JAN-2000; 2000US-0179065 17-JAN-2001; 2001WO-US01332.

```
04-FEB-2000

02-MAR-2000

02-MAR-2000

16-MAR-2000

18-APR-2000

19-MAY-2000

19-MAY-2000

10-JUN-2000

10-JUN-2000

10-JUN-2000

11-JUL-2000

11-JUL-2000

11-JUL-2000

11-JUL-2000

11-JUL-2000

11-AUG-2000

11-SEP-2000

11-SE
             2000US-0180628
2000US-0184644
2000US-0184564
2000US-019813
2000US-0214886
2000US-0214886
2000US-0216847
2000US-0216847
2000US-0216847
2000US-0216847
2000US-021829
2000US-021829
2000US-0228513
2000US-0228514
2000US-0228514
2000US-0228514
2000US-0228514
2000US-0228514
2000US-02285447
2000US-02285447
2000US-0228547
2000US-0228568
2000US-0228568
2000US-023868
2000US-023944
2000US-023944
2000US-0231244
2000US-0231244
2000US-0231244
2000US-0231244
2000US-0231244
2000US-0231244
2000US-0231413
2000US-0231413
2000US-0231413
2000US-0234298
2000US-0234298
2000US-0234298
2000US-0234298
2000US-0234298
2000US-0234298
2000US-0234283
2000US-02348497
2000US-0236888
2000US-0236888
2000US-0236888
2000US-0236888
2000US-0236888
2000US-0236888
2000US-0236888
2000US-0236888
       02-OCT-2000
02-OCT-2000
13-OCT-2000
13-OCT-2000
20-OCT-2000
20-OCT-2000
20-OCT-2000
20-OCT-2000
20-OCT-2000
20-OCT-2000
20-OCT-2000
20-OCT-2000
08-NOV-2000
08-DEC-2000
New isolated nucleic acid encoding a preventing, treating or ameliorating food additives or preservatives -
                                                              WPI; 2001-581633/65
N-PSDB; ABK43964.
                                                                                                                                                                 2000US-0237038.
2000US-0237039.
2000US-0237039.
2000US-0239937.
2000US-0240960.
2000US-0241785.
2000US-0241808.
2000US-0241808.
2000US-0246476.
2000US-0246476.
2000US-0246476.
2000US-0246476.
2000US-0246476.
2000US-0246528.
2000US-0246611.
2000US-0249219.
2000US-0249219.
2000US-0249211.
2000US-0249211.
2000US-0249211.
2000US-024921.
2000US-024928.
2000US-024928.
2000US-024928.
2000US-0251868.
2000US-0251868.
2000US-0251989.
2000US-0254099.
2000US-0254099.
2000US-0254099.
2000US-0254099.
2000US-0254099.
2000US-0254099.
                                                                                                                                       GENOME
                                                                                                          SC,
                                                                                                                                     SCI INC
                                                                                                        SM;
               protein for diagnosing, medical conditions and
                used
               as
```

```
HORRA CANANA CAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABB17239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   anglogenesis, nervous system disorders e.g. Allheimer's disease and amylotrophic lateral sclerosis, infections caused by bacteria, viruses e.g. Acquired immunodeficiency virus (AIDS) and fungi, ocular disorders e.g. corneal infection, gastrointestinal disorders e.g. dysphagia, adenocarcinomas and irritable bowel syndrome, reproductive system disorders e.g. testicular feminisation, endocrine disorders e.g. diabetes and pituitary dwarfism, cancers and disorders at the cellular level e.g. leukaemia, disorders involving neovascularisation e.g. malignancies, respiratory disorders e.g. nonallergic rhinitis, renal disorders e.g. e.g. acute kidney failure and blood related disorders e.g. myocardial infarction. The polypeptides can also be used to aid wound healing and epithelial cell proliferation, to prevent skin aging due to sunburn, to maintain organs before transplantation, for supporting cell culture of primary tissues, to regenerate tissues and in chemotaxis. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           e.g. cardiac arrest, cerebrovascular disorders e.g. cerebral ischaemia,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      novel central nervous system protein. (I) and polypeptides (II) encoding a by (I), are used to treat a medical conditions and in diagnosis of a pathological condition. Disorders which are diagnosed or treated include autoimmune diseases a or rhowmatch archives.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 9; SEQ ID No 1152; 837pp; English.
                   04 FEB-2000;
24 FEB-2000;
02-MAR-2000;
16-MAR-2000;
17-MAR-2000;
18-APR-2000;
19-MAY-2000;
28-JUN-2000;
28-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          primary tissues, to regenerate tissues and in the properties can also be used as a food additive or preservative to polypeptides can also be used as a food additive or preservative to polypeptides can also be used as a food additive or preservative to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        disorders e.g. neoplasms of the breast or liver,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              autoimmune diseases e.g. rheumatoid arthritis, hyperproliferative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; nootropic; neuroprotective; cytostatic; dermatological; virucide; immunosuppressive; antiinflammatory; anti-HV; antibacterial; vulnerary; antiparkinsonian; antiskkling; antianaemic; antiarthritic; cancer; antirheumatic; hapatotropic; cerebroprotective; antiinflammatory; antiallergic; antidiabetic; antiucer; anticonvulsant; antifungal; antiparasitic; cardiant; immune disorder; cardiovascular disorder; antiparasitic; cardiant; immune disorder; cardiovascular disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABB17239 standard; Protein; 119 AA.
                                                                                                                                                                                                                             31-JAN-2000;
                                                                                                                                                                                                                                                                            17-JAN-2001; 2001WO-US01334.
                                                                                                                                                                                                                                                                                                                       16-AUG-2001.
                                                                                                                                                                                                                                                                                                                                                                      WO200159063-A2
                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                neurological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human nervous system related polypeptide SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABB17239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     148 YLMAGISDEDSLA 160
||||||||||||
53 YLMAGISDEDSLA 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                   2000US-0179065
2000US-0180628
2000US-0184664
2000US-0186350
2000US-018874
2000US-0190076
2000US-0198123
2000US-0198123
2000US-0205515
2000US-0209467
2000US-0214886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                infection; nephrotropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 13;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 22; 1
0.00017;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene therapy; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cardiovascular disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
         אם המשמה המשמה המשמה המשמה המשמה המשמה המשמה המשמה המשמה המשמה המשמה המשמה המשמה המשמה המשמה המשמה המשמה המשמה המשמה המ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14-AUG-2000)
14-AUG-2000)
14-AUG-2000)
18-AUG-2000)
22-AUG-2000)
22-AUG-2000)
23-AUG-2000)
30-AUG-2000)
01-SEP-2000)
01-SEP-2000]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-JUL-2000;
07-JUL-2000;
11-JUL-2000;
11-JUL-2000;
                                                                                                                                                                                                                                                                                                                            14-SEP-2000;
21-SEP-2000;
21-SEP-2000;
21-SEP-2000;
25-SEP-2000;
25-SEP-2000;
26-SEP-2000;
27-SEP-2000;
27-SEP-2000;
29-SEP-2000;
29-SEP-2000;
29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14-AUG-2000;
14-AUG-2000;
                                                                                                                                                                                                                                                             29-SEP-2000;
29-SEP-2000;
02-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-SEP-2
                                                                                                                                                                                                                                                                                     2000US-0235484.

2000US-0235834.

2000US-0235836.

2000US-0235327.

2000US-0236367.

2000US-0236369.

2000US-0236369.

2000US-0236369.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0232401.
2000US-0233063.
2000US-0233064.
2000US-0233065.
2000US-0234223.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0216647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0224518
2000US-0224519
                                                     2000US-0240960.
2000US-0241785.
2000US-0241786.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0229344
2000US-0229345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0218290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0231242.
2000US-0231243.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0230437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0229513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0229509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0229287
2000US-0229343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0228924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0232081
2000US-0231968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0231244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0234274
2000US-0234997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0232399
2000US-0232400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0232397
2000US-0232398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0232080
                                                                                                                                                                                                                                         2000US-0236802
2000US-0237037
```

δÃ

0;

```
(ABB14678-ABB18001) useful for preventing, treating or ameliorating medical conditions e.g. by protein or gene therapy. The genes are isolated from a range of human tissues disclosed in the specification.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17-NOV-2000;
01-DEC-2000;
01-DEC-2000;
05-DEC-2000;
The nucleic acids, proteins, antibodies and (ant)agonists are useful in the diagnosis, treatment and prevention of: (a) cancer, e.g. breatment ovarian cancer and other cancers of the adrenal gland, bone, 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20-OCT 2000;
20-OCT 2000;
20-OCT 2000;
01-NOV 2000;
08-NOV 2000;
17-NOV 2000;
                                                                                                               The invention relates to novel genes (ABA11004-ABA21534) and proteins (ABB14678-ABB18001) useful for preventing, treating or ameliorating
                                                                                                                                                                                                                                              Nucleic acids encoding 3224 human nervous system antigen polypeptides, useful for preventing, diagnosing and/or treating nervous system
                                                                                                                                                                                                                                                                                                                                                                                                                                     HUMA-) HUMAN GENOME
                                                                                                                                                                             laim 11; SEQ ID NO 5896; 1701pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                 2001-541565/60.
                                                                                                                                                                                                                                     and
                                                                                                                                                                                                                                                                                                                             ABA13565
                                                                                                                                                                                                                                                                                                                                                                                         Barash SC,
                                                                                                                                                                                                                                     metastases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0251988.
2000US-0256719.
2000US-0251479.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0249245.
2000US-0249264.
2000US-0249265.
2000US-0249265.
2000US-0249297.
2000US-0249299.
2000US-0249390.
2000US-0250391.
2000US-0250391.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0249216.
2000US-0249217.
2000US-0249218.
2000US-0249244.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0246525

2000US-0246526

2000US-0246528

2000US-0246532

2000US-0246609

2000US-0246611

2000US-0246611

2000US-0246613

2000US-0249209

2000US-0249209

2000US-0249211

2000US-0249211

2000US-0249213

2000US-0249213

2000US-0249213

2000US-0249213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0246478.
2000US-0246523.
2000US-0246524.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0246474.
2000US-0246475.
2000US-0246476.
2000US-0246477.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0251030
                                                                                                                                                                                                                                                                                                                                                                                                                                     SCI INC
```

```
RESULT 13
AAU17072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                       11-JUL-2000;
11-JUL-2000;
14-JUL-2000;
26-JUL-2000;
26-JUL-2000;
                                                                                                                 19-MAY-2000;
07-JUN-2000;
28-JUN-2000;
30-JUN-2000;
07-JUL-2000;
07-JUL-2000;
                                                                                                                                                                                                          16-MAR-2000;
17-MAR-2000;
18-APR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        antiinflammatory; anti-HTV; antibacterial; antiinflammatory; cancer; immune system disorder; rheumatoid arthritis; inflammatory condition; organ transplant rejection; infection; hepatitis C; blood disorder; sickle cell anaemia; hyperproliferative disorder; Gaucher's disease; neurodegenerative disorder; Alzheimer's disease; parkinson's disease; chromosomal abnormality; Down syndrome; ischaemia; renal disorder; cardiovascular; respiratory; wound healing; endocrine; Addison's disease; reproductive system; gastrointestinal; liver disorder; AIDS; acmired hemino deficiency system; gastrointestinal; liver disorder; AIDS;
                                                                                                                                                                                                                                                                                     31-JAN-2000;
04-FEB-2000;
                                                                                                                                                                                                                                                                                                                                17-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                               02-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                          WO200154733-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Neuroprotective; cytostatic; dermatological; immunosuppressive; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel signal transduction pathway protein, Seq ID 637.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAU17072 standard; Protein; 119 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               marrow, breast, gastrointestinal tract, liver, lung, or urogenital;
(b) immune disorders e.g. Addison's disease, allergies, autoimmune haemolytic anaemia, autoimmune thyroiditis, diabetes mellitus, Crohn's disease, multiple sclerosis, rheumatoid arthritis and ulcerative colitis; (c) cardiovascular disorders such as myocardial ischaemias; (d) wound healing; (e) neurological diseases e.g. cerebral anoxia and epilepsy; and (f) infectious diseases such as viral, bacterial, fungal and parasitic infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAU17072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 148 YLMAGISDEDSLA 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    53 YLMAGISDEDSLA 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 Similarity
13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               at ftp.wipo.int/pub/published_pct_sequences.
                      2000US-021647
2000US-021688
2000US-0217487
2000US-0217496
2000US-0217496
2000US-0218290
2000US-0220963
2000US-0220964
2000US-0220964
                                                                                                                                          2000US-018664
2000US-018650
2000US-0186350
2000US-0189874
2000US-019076
2000US-0198123
2000US-0205515
2000US-0205467
2000US-0215135
2000US-0215135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          119 AA;
                                                                                                                                                                                                                                                                                                    2000US-0179065
                                                                                                                                                                                                                                                                                                                               2001WO-US01312.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                deficiency syndrome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 13;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 22; 1
0.00017;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bacterial, fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             format directly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Crohn's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           disease;
```

14-AUG-2000; 14-AUG-2000; 14-AUG-2000; 14-AUG-2000; 14-AUG-2000;

14 - AUG

2000US-0225214.
2000US-0225266.
2000US-0225268.
2000US-0225759.
2000US-0225759.
2000US-0225759.
2000US-0225759.
2000US-0225759.
2000US-02257686.
2000US-0225768.
2000US-0225768.
2000US-022576.
2000US-0229343.
2000US-0229343.
2000US-0229343.
2000US-0229343.
2000US-0229343.
2000US-0229343.
2000US-0239343.
2000US-0239343.
2000US-0239343.
2000US-0239343.
2000US-0231242.
2000US-0231243.
2000US-0231244.
2000US-0231244.
2000US-0231244.
2000US-0231249.
2000US-0231368.
2000US-023398.
2000US-023398.
2000US-023398.
2000US-023398.
2000US-023398.
2000US-023398.
2000US-023396.

```
The invention relates to novel isolated polypeptides (I), and comply control of the polynucleotides (II), (II) and the antibody to (I) are useful for comply control of the polynucleotides (II), (II) and the antibody to (I) are useful for comply control of the polynucleotides (II), (II) and the antibody to (I) are useful for control of the polynucleotides (II), (II) and the antibody to (II) are useful for control of the polynucleotides (II), (II) and the antibody to (II) are set (II) and the polynucleotides (II) and the polynucleotid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
01-DEC-2000;
01-DEC-2000;
05-DEC-2000;
05-DEC-2000;
05-DEC-2000;
05-DEC-2000;
05-DEC-2000;
06-DEC-2000;
08-DEC-2000;
09-DEC-2000;
09-DE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel polypeptides useful for diagnosing, treating, preventing and/or prognosing disorders related to the proteins, including cancers, immune disorders and neuronal disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-465460/50.
N-PSDB; AAS26989.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1; SEQ ID No 637; 880pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CA,
  (inflammatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Barash SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0246611.
2000US-0246613.
2000US-0249209.
2000US-0249210.
2000US-0249210.
2000US-0249211.
2000US-0249211.
2000US-0249213.
2000US-0249213.
2000US-0249214.
2000US-0249216.
2000US-0249216.
2000US-0249216.
2000US-0249216.
2000US-0249264.
2000US-0249264.
2000US-0249264.
2000US-0249265.
2000US-0249267.
2000US-0249267.
2000US-0249267.
2000US-0249267.
2000US-0249267.
2000US-0251166.
2000US-02511988.
2000US-02511988.
2000US-02511988.
2000US-02511988.
2000US-02511989.
2000US-02511989.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2001US-0259678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0246609
  disorders),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ruben
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MS.
           disorders, dermaturby....
proliferation, endocrine disorders (eproliferation, endocrine disorders)
  liver disorders
  (cirrhosis),
```

14-AUG-2000)
118-AUG-2000)
22-AUG-2000)
22-AUG-2000)
22-AUG-2000)
23-AUG-2000)
21-SEP-2000)
21-SEP-2000)
21-SEP-2000)
20-SEP-2000)
20-SEP-2000)
20-SEP-2000)
20-SEP-2000)
20-SEP-2000)
20-SEP-2000)
21-SEP-2000)
21-SEP-2000]
21-S

2000US-0235484 2000US-0235834 2000US-0235833 2000US-0235837 2000US-0236367 2000US-0236367 2000US-0236369 2000US-0236370 2000US-0236370 2000US-0237037 2000US-0237037 2000US-0237037 2000US-0237039 2000US-0237039 2000US-0237039 2000US-0237039 2000US-0237039 2000US-0237039 2000US-0237039 2000US-0237039 2000US-0237039

2000US-023937 2000US-0241921 2000US-0241785 2000US-0241785 2000US-0241786 2000US-0241786 2000US-0241809 2000US-0241809 2000US-0241809 2000US-0241826 2000US-0246474 2000US-0246476 2000US-0246476 2000US-0246476 2000US-0246477 2000US-0246477 2000US-0246478 2000US-0246478 2000US-0246478

```
RESULT 14
AAM43643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 866666
86666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                02-MAR-2000

16-MAR-2000

17-MAR-2000

18-AFR-2000

19-MAY-2000

07-JUN-2000

28-JUN-2000

28-JUN-2000

07-JUL-2000

07-JUL-2000

07-JUL-2000

07-JUL-2000

11-JUL-2000

11-JUL-2000
                                                     14 - AUG - 2000

14 - AUG - 2000

14 - AUG - 2000

14 - AUG - 2000

14 - AUG - 2000

14 - AUG - 2000

14 - AUG - 2000

14 - AUG - 2000

14 - AUG - 2000

14 - AUG - 2000

14 - AUG - 2000

14 - AUG - 2000
                                                                                                                                                                                                         26-JUL-2000;
26-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; antiarthritic; antirheumatic; antiproliferative; vasotropic; cerebroprotective; nootropic; neuroprotective; antibacterial; virucide; fungicide; ophthalmological; cytostatic; immunosuppressive; nootropic; neuroprotective; antiallergic; hepatotropic; antidiabetic; antiinflammatory; antiulcer; vulnerary; anticonvulsant; antibacterial; antiparasitic; cardiant; gene therapy; cancer; immune disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    as stimulators of B-cell responsiveness to pathogens, activators of T-cells, to induce higher affinity antibodies, and as a means to induce tumour proliferation in pathologies e.g. acquired immune deficiency syndrome (AIDS). AAU17059-AAU17683 represent novel signal transduction pathway protein, amino acid sequences of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               31-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     antiparasitic; cardiant; gene therapy; cancer; immune disorder;
cardiovascular disorder; neurological disease; infection; human.
                                                                                                                                                                                                                                        14-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200155308-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human polypeptide SEQ ID NO 321.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAM43643;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAM43643 standard; Protein; 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YLMAGISDEDSLA 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            YLMAGISDEDSLA 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      l Similarity
13; Conserv
          2000US-0179065.
2000US-0184664.
2000US-0184664.
2000US-0189874.
2000US-0199874.
2000US-0199123.
2000US-0209467.
2000US-0214886.
2000US-0215135.
2000US-0216487.
2000US-0216880.
2000US-0217487.
2000US-02174963.
2000US-0225963.
2000US-0225963.
2000US-0225968.
2000US-0225968.
2000US-02259757.
2000US-0225758.
2000US-0225758.
2000US-0225758.
2000US-0225758.
2000US-0225759.
2000US-0225759.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2001WO-US01309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 13;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.00017;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
    26-SEP-2000

27-SEP-2000

27-SEP-2000

29-SEP-2000

29-SEP-2000

29-SEP-2000

29-SEP-2000

02-OCT-2000

02-OCT-2000

02-OCT-2000

02-OCT-2000

03-OCT-2000

03-OCT-2000

03-OCT-2000

03-OCT-2000

03-OCT-2000

03-OCT-2000

04-OCT-2000

05-OCT-2000

06-NOV-2000

08-NOV-2000

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22-AUG-2000;

22-AUG-2000;

22-AUG-2000;

23-AUG-2000;

30-AUG-2000;

01-SEP-2000;

01-SEP-2000;

01-SEP-2000;

05-SEP-2000;

05-SEP-2000;

06-SEP-2000;

06-SEP-2000;

08-SEP-2000;

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        L4-SEP-2000;
2000US-0241809
2000US-0241826
2000US-0244617
2000US-0246474
2000US-0246476
2000US-0246476
2000US-0246477
2000US-0246477
2000US-0246523
2000US-0246524
2000US-0246524
2000US-0246526
2000US-0246527
2000US-0246527
2000US-0246527
2000US-0246527
2000US-0246527
2000US-0246527
2000US-0246528
2000US-0246529
2000US-0246532
2000US-0246611
2000US-0246611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0231413

2000US-0231414

2000US-0232080

2000US-0232080

2000US-023298

2000US-0232398

2000US-0232398

2000US-0232398

2000US-0232400

2000US-0232401

2000US-0232401

2000US-023403

2000US-023403

2000US-023403

2000US-023403

2000US-023403

2000US-023403

2000US-023403

2000US-023423

2000US-023423

2000US-023423

2000US-023423

2000US-023423

2000US-023423

2000US-0234234

2000US-0234234

2000US-0234234

2000US-0235484

2000US-0235836

2000US-0235836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0230437.
2000US-0230438.
2000US-0231242.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0226681.
2000US-0226868.
2000US-0227182.
```

```
ρ
                                                                                                                             밁
                                                                             Query Match
Best Local
                                                              Matches
                                                                                                                                                   bone, bone marrow, breast, gastrointestinal tract, liver, lung, or urogenital; (b) immune disorders e.g. Addison's disease, allergies, autoimmune haemolytic anaemia, autoimmune thyroiditis, diabetes mellitus, Crohn's disease, multiple sclerosis, rheumatoid arthritis and ulcerative colitis; (c) cardiovascular disorders such as myocardial ischaemias; (d) wound healing; (e) neurological diseases e.g. cerebral anoxia and epilepsy; and (f) infectious diseases such as viral, bacterial, fungal and parasitic infections.

Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-NOV-2000
17-NOV-2000
17-NOV-2000
17-NOV-2000
17-NOV-2000
17-NOV-2000
01-DEC-2000
01-DEC-2000
05-DEC-2000
05-DEC-2000
05-DEC-2000
06-DEC-2000
08-DEC-2000
08-DEC-2000
08-DEC-2000
08-DEC-2000
                                                                                                                                                                                                                                                                                                              the encoded proteins (AAM434497-AAM43660) useful for preventing, treating or ameliorating medical conditions e.g. by protein or gene therapy. The genes were isolated from a range of human tissues disclosed in the specification. The nucleic acids, proteins, antibodies and (ant)agonists are useful in the diagnosis, treatment and prevention of: (a) cancer, e.g. breast and ovarian cancer and other cancers of the adrenal gland, bone, bone marrow, breast, gastrointestinal tract, liver, lung, or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 11; SEQ
                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New isolated nucleic acids and polypeptides, useful for diagnosing, treating and/or preventing human diseases and disorders -
                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to human polynucleotides (AAI63803-AAI64012) and the encoded proteins (AAM434497-AAM43660) useful for preventing, treat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (HUMA-) HUMAN GENOME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17-NOV-2000;
                             148 YLMAGISDEDSLA 160
53 YLMAGISDEDSLA 65
                                                             Local Similarity
les 13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001-488781/53.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CA,
                                                                                                                          119 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Barash SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0249211
2000US-0249213
2000US-0249213
2000US-0249214
2000US-0249216
2000US-0249216
2000US-0249217
2000US-0249214
2000US-0249244
2000US-024924
2000US-024924
2000US-024926
2000US-024929
2000US-024929
2000US-024929
2000US-0250160
2000US-0250160
2000US-0251988
2000US-0251856
2000US-0251868
2000US-0251868
2000US-0251868
2000US-0251868
2000US-0251868
2000US-0251868
2000US-0251888
2000US-0251868
2000US-0251898
2000US-0251898
2000US-0251988
                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0249207.
2000US-0249208.
2000US-0249209.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ID NO 321; 664pp + Sequence Listing; English.
                                                                            100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SCI INC
                                                              0
                                                                          Score 13;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SM
                                                              Mismatches
                                                                          DB 22; I
                                                                                       Length 119;
                                                           Indels
                                                           0;
                                                           0
```

```
RESULT 15
11-JUL-2000

11-JUL-2000

14-JUL-2000

26-JUL-2000

14-AUG-2000

15-AUG-2000

22-AUG-2000

23-AUG-2000

23-AUG-2000

21-AUG-2000

21-AU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    31 - JAN - 2000

04 - FEB - 2000

24 - FEB - 2000

02 - MAR - 2000

16 - MAR - 2000

17 - MAR - 2000

18 - APR - 2000

19 - MAY - 2000

07 - JUN - 2000

28 - JUN - 2000

07 - JUL - 2000

07 - JUL - 2000

07 - JUL - 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Central nervous system; CNS; autoimmune disease; rheumatoid arthritis; hyperproliferative disorder; neoplasm; cardiovascular disorder; cardiac arrest; cerebrovascular disorder; ischaemia; angiogenesis; nervous system disorder; Alzheimer's disease; AIDS; ocular disorder; acquired immunodeficiency virus; dysphagia; gastrointestinal disorder; adenocarcinoma; reproductive system disorder; testicular feminisation; endocrine disorder; diabetes; cancer; leukaemia; neovascularisation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       respiratory disorder; renal disorder; kidney failure; blood disorder; myocardial infarction; wound healing; cell proliferation; skin aging;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel central nervous system
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAU87352;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAU87352 standard; Protein; 214 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200155318-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       additive; food preservative; gene therapy
2000US-022963
2000US-0224518
2000US-0224519
2000US-0225213
2000US-0225213
2000US-0225266
2000US-0225267
2000US-0225267
2000US-0225247
2000US-0225477
2000US-0225477
2000US-0225757
2000US-0225758
2000US-0225758
2000US-0225759
2000US-0225681
2000US-0225681
2000US-0225681
2000US-0225681
2000US-0225681
2000US-02258924
2000US-0229343
2000US-0229343
2000US-0229343
2000US-0229343
2000US-0229343
2000US-0229343
2000US-0229343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0214886.
2000US-0215135.
2000US-0216647.
2000US-0216880.
2000US-0217487.
2000US-0217496.
2000US-0218290.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0205515
2000US-0209467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0190076
2000US-0198123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0179065
2000US-0180628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2001WO-US01332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0189874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein #262
```

```
06-SEP-2000;
06-SEP-2000;
08-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08-SEP-2000;
08-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                 29-SEP-2000;
2000US-0246613.
2000US-0249207.
2000US-0249208.
2000US-0249209.
2000US-0249210.
2000US-0249212.
2000US-0249213.
2000US-0249213.
2000US-0249214.
2000US-0249215.
2000US-0249215.
2000US-0249215.
2000US-0249215.
                                                                                                                                                                                                                                                                                                                                                                     2000US-0234223.
2000US-0234274.
2000US-0234997.
2000US-0234998.
2000US-0235484.
                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-02320B1.
2000US-023196B.
2000US-0232397.
2000US-0232398.
2000US-0232399.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0230437.
2000US-0230438.
2000US-0231242.
2000US-0231243.
2000US-0231244.
                                                                                      2000US-0246532.
2000US-0246609.
2000US-0246610.
2000US-0246611.
                                                                                                                                                                                                                                                                                        2000US-0237037.
2000US-0237038.
2000US-0237039.
                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0232401.
2000US-0233063.
2000US-0233064.
                                                                                                                                 2000US-024
                                                                                                                                                                                                                                                                                                                                  2000US-0236367
2000US-0236368
                                                                                                                                                                             2000US-0246475
2000US-0246476
                                                                                                                                                                                                                                              2000US-0241221
2000US-0241785
                                                                                                                                                                                                                                                                   2000US-0239935
2000US-0239937
                                                                                                                                                                                                                                                                                                                                                 2000US-0235836
2000US-0236327
                                                                                                                    2000US-0246528
                                                                                                                           2000US-024
                                                                                                                                                         2000US-024
                                                                                                                                                                2000US-024
                                                                                                                                                                      2000US-0246477
                                                                                                                                                                                           2000US-0244617
2000US-0246474
                                                                                                                                                                                                          2000US-0241826
                                                                                                                                                                                                                 2000US-0241809
                                                                                                                                                                                                                                       2000US-0241786
                                                                                                                                                                                                                                                             2000US-0240960
                                                                                                                                                                                                                                                                                  2000US-0237040
                                                                                                                                                                                                                                                                                                                            2000US-0236369
                                                                                                                                                                                                                                                                                                                                                               2000US-0235834
                                                                                                                                                                                                                                                                                                                                                                                                           2000us-0233065
                                                                                                                          46526
46527
                                                                                                                                                46478
46523
46524
```

```
17-NOV-2000
17-NOV-2000
17-NOV-2000
01-DEC-2000
01-DEC-2000
05-DEC-2000
05-DEC-2000
05-DEC-2000
06-DEC-2000
08-DEC-2000
08-DEC-2000
08-DEC-2000
08-DEC-2000
                                                                                                                                                                                                                                                                                         17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                          08-DEC-2000;
11-DEC-2000;
                                                                                                                                                                                         (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                         2000US-0249264.
2000US-0249265.
2000US-0249297.
2000US-0249299.
2000US-0249300.
                                                                                                                                                                                                                               2000US-0251479.
2000US-0251856.
2000US-0251868.
                                                                                                                                                                                                                                                                                                    2000US-0249218.
2000US-0249244.
2000US-0249245.
                                                                                                                                                                                                     2001US-0259678
                                                                                                                                                                                                           2000US-0251990
2000US-0254097
                                                                                                                                                                                                                                                                     2000US-0250160
```

Barash SC, Ruben SM;

N-PSDB; ABK43682. WPI; 2001-581633/65.

٠.

New isolated nucleic acid encoding a protein for diagnosing, preventing, treating or ameliorating medical conditions and used as food additives or preservatives -

Claim 9; SEQ ID No 870; 837pp; English.

CC disorders e.g. neopleasms of the breast or liver, cardiovascular disorders c.g. cardiac arrest, cerebrovascular disorders e.g. cerebral ischaemia, CC angiogenesis, nervous system disorders e.g. Alzheimer's disease and CC amylotrophic lateral sclerosis, infections caused by bacteria, viruses (CC e.g. corneal infection, gastrointestinal disorders e.g. disphagia, CC adenocarcinomas and irritable bowel syndrome, reproductive system CC disorders e.g. testicular feminisation, endocrine disorders e.g. diabetes CC and patituitary dwarfism, cancers and disorders at the cellular level e.g. CC leukaemia, disorders e.g. nonallergic rhinitis, renal disorders e.g. crespiratory disorders e.g. nonallergic rhinitis, renal disorders e.g. crespiratory failure and blood related disorders e.g. myocardial CC infarction. The polypeptides can also be used to aid wound healing and CC epithelial cell proliferation, to prevent skin aging due to sunburn, to maintain organs before transplantation, for supporting cell culture of primary tissues, to regenerate tissues and in chemotaxis. The collipseptides can also be used additive or preservative to The invention describes an isolated nucleic acid molecule (I) encoding a novel central nervous system protein. (I) and polypeptides (III) encoded by (I), are used to treat a medical conditions and in diagnosis of a pathological condition. Disorders which are diagnosed or treated include autoimmune diseases e.g. rheumatoid arthritis, hyperproliferative increase or decrease storage capabilities, fat content, lipid, DB 22; Length 214; protein,

```
밁
                       δÃ
                                                              Query Match
Best Local :
                                                   Matches
148 YLMAGISDEDSLA 160
|||||||||||||
| 89 YLMAGISDEDSLA 101
                                               ch 1.1%; Score 13; DB 1 Similarity 100.0%; Pred. No. 0.0 13; Conservative 0; Mismatches
                                                               No. 0.00031;
                                                  Indels
                                                  0;
                                                  Gaps
                                                  0;
```

Search completed: March 28, 2003, 14:02:24 Job time: 88 secs

```
Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                           OM protein - protein search, using sw model
Total number of hits satisfying chosen parameters:
                                                                                 Searched:
                                                                                                                                          Scoring table:
                                                                                                                                                                                    Sequence:
                                                                                                                                                                                                                                                                                                         Run on:
                                            Word size :
                                                                                                               OLIGO
Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                  US-09-927-112-2
1207
1 MAPPTAGPLPGPALPPEDPG.....ALYPWHCLRGTLLPWLACGP 1207
                                                                                 283224 seqs, 96134422 residues
                                                                                                                                                                                                                                                                                                         March 28, 2003, 14:00:21; Search time 54 Seconds
                                            0
                                                                                                                                                                                                                                                                                                                                                                                                    GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                               (without alignments)
2148.782 Million cell updates/sec
      283224
```

Post-processing: Listing first 45 summaries

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Database : PIR_73:* 1: pir1:* 2: pir2:* 3: pir3:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	œ	7	6	ر. د	4	ω	N	ם	Result No.
80	8	9	9	9	9	9	9	9	9	9	9	9	9	10	10	10	10	10	10	11	11	12	12	12	12	12	12	12	Score
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	٠		0.8	0.8		•	0.9	•	1.0	1.0	1.0	1.0	1.0	1.0	Query Match
208	164	3122	1418	1299	1291	1290	1290	1236	1176	1095	829	596	489	1096	997	896	895	801	756	1922	1898	1216	1216	1211	1210	1181	913	764	Length
2	N	N	N	N	N	2	N	_	ᆫ	ட	N	2	_	<u>, , , , , , , , , , , , , , , , , , , </u>	_	N	2	_	بر	N	ν	N	N	N	N	N	N	_	BB
G84086	T08749	T17202	T37264	T24299	S00666	A36466	A31317	A53970	A48047	A31225	T33283	T07421	A53766	S62358	I54390	T27376	T32374	A44165	B28821	T21581	T42440	A28821	A28822	S68251	A48001	A43346	T46339	S14113	ID
dihydrodipicolinat	hypothetical prote	DNA-directed DNA p	phospholipase C (E	hypothetical prote	1-phosphatidylinos	1-phosphatidylinos	1-phosphatidylinos	1-phosphatidylinos		phospholipase C (E	hypothetical prote	phosphoinositide-s	phosphoinositide-s	inositol 1,4,5-tri	4		hypothetical prote	1-phosphatidylinos	1-phosphatidylinos	hypothetical prote	phospholipase C ho	1-phosphatidylinos	1-phosphatidylinos	phospholipase C, i	phospholipase C (E	1-phosphatidylinos	hypothetical prote	1-phosphatidylinos	Description

44	43	42	41	40	39	38	37	36	35	34	33	32	31	30
တထ	ω	æ	8	œ	œ	œ	ထ	80	8	æ	80	œ	&	œ
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
531 543	513	485	441	413	382	357	338	337	336	332	318	317	264	243
2	'n	N	N	2	N	N	N	2	N	N	N	_	N	N
AB0460	T45658	B82558	E72579	D86920	T06639	D83017	B82128	S42416	G98120	A82688	G95255	A31797	D71037	A40394
1-phosphatidylinos ubiquinone biosynt	1-phosphatidylinos	IMP dehydrogenase	hypothetical prote	probable UDP-galac	hypothetical prote	probable transcrip	conserved hypothet	probable membrane	conserved hypothet	octaprenyl-diphosp	TIM-barrel protein	Spec-related prote	hypothetical prote	spec-related prote

ALIGNMENTS

RESULT 1 S14113

	S14113 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-2 - bov N.Alternate names: phosphoinositidase C; phospholipase C-delta-2; triphosphoinositide C; Species: Bos primigenius taurus (cattle)
	C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 02-Jun-2000 C;Accession: S14113; S04944
	R;Meldrum, E.; Kriz, R.W.; Totty, N.; Parker, P.J. Bur. J. Biochem. 196, 159–165, 1991
	A; Title: A second gene product of the inositol-phospholipid-specific phospholipase C-A; Reference number: S14113; MUID:91160548; PMID:1848183
	A; Accession: \$14113
	A;Status: preliminary
	A; Residues: 1-764 (MEL)
	A; Experimental source: brain
	R; Meldrum, E.; Katan, M.; Parker, P.
	A; Title: A novel inositol-phospholipid-specific phospholipase C. Rapid purification a
,	A; Accession: S04944
•	A: Wolecule type: protein
	A; Residues: 528-541, 'X', 543-553, 659-669 < ME2>
	A; Experimental source: brain
	C; Superfamily: 1-phosphatidylinositol-4, 5-bisphosphate phosphodiesterase delta-1; 1-p
	phosphodiesterase domain Y homology; calmodulin repeat homology; pleckstrin repeat ho
	C;Keywords: duplication; EF hand; lipid degradation; phosphoric diester hydrolase; si F:15-132/Domain: plackstrin repeat homology <pix></pix>
	F;134-166/Domain: calmodulin repeat homology <ef1></ef1>
	1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
	domain
	1.0%; Score 12;
	Hest Local Similarity 100.0%; Fred. No. 0.003/; Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
	Qy 335 SSHNTYLVGDQL 346
	Db 303 SSHNTYLVGDQL 314
	RESULT 2
	146339 protein DK92943440814] - himan (fragment)

hypothetical protein DKFZp434A0814.1 - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 02-Sep-2000
C;Accession: T46339
R;Koehrer, K.; Beyer, A.; Mewes, H.W.; Gassenhuber, J.; Wiemann, S.

Gaps

0

K X

```
C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase odiesterase domain Y homology
C;Keypords: phosphoric diester hydrolase
                                                     A;Molécule type: mRNA
A;Residues: 1-1210 <MAA>
A;Cross-references: GB:L20816; NID:g405589;
C;Supérfamily: 1-phosphatidylinositol-4,5-bi
                                                                                                                                A;Title: Receptor evoked C1(-) current in Xenopus occytes A;Reference number: A48001; MUID:93388545; PMID:8397190 A;Accession: A48001 A;Status: preliminary
                                                                                                                                                                                                                             R;Ma,
J. Biç
                                                                                                                                                                                                                                                                   phospholipase C (EC 3.1.4.3) beta, oocyte - Afr C;Species: Xenopus Laevis (African clawed frog) C;Date: 02.Jun-195 #sequence_revision 02-Jun-1 C;Accession: A48001
                                                                                                                                                                                                                                                                                                                                                                                                                                                Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Keywords: phosphoric diester hydrolase F;314-463/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase F;541-661/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               odiesterase domain Y homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: GB:M95678; NID:g190039; PIDN:AAA36453.1; PID:g190040
A;Note: sequence extracted from NCBI backbone (NCBIP:110494)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C:Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 22-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Status: nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Park, D.; Jhon, D.Y.; Kriz, R.; Knopf, J.; Rhee, S.G. J. Biol. Chem. 267, 16048-16055, 1992
A;Title: Cloning, sequencing, expression, and Gq-independent activation of phospholipase A;Reference number: A43346; MUID:92355553; PMID:1644792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3 N;Alternate names: phospholipase C beta-2; triphosphoinositide C;species: Homo sapiens (man)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N; Alternate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Note: DKFZp434A0814.1
C; Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase I; 1-phosphationed odiesterase domain Y homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A:Molecule type: mRNA
A:Residues: 1-913 <AAA>
A:Cross-references: EMBL:AL137267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Residues: 1-1181 <PAR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Accession: A43346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Experimental source:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Accession: T46339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Reference number:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       submitted to the Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase I;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      - 207/Domain: 1-phosphatīdylinositol-4,5-bisphosphate phosphodiesterase domain X hom
                                                                                                                                                                                                                      H.W.; Blitzer, R.D.; Healy, E.C
ol. Chem. 268, 19915-19918, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                             616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     694 FWNAGCOMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             354 FWNAGCQMVALN 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     694 FWNAGCQMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                             FWNAGCOMVALN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A43346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         acid sequence not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                             627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     adult testis; clone DKFZp434A0814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.0%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                        E.C.; Premont,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 12;
Pred. No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 12;
Pred. No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                    02-Jun-1995 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   No.
                                                                                                                                                                                                                                                                                                                               African clawed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DH ... 0.0053;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.0043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2;
                                                                                                                                                                                                                                          R.T.; Landau, E.M.; Iyengar,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1181;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                  is
                                                                                                                                                                                                                                                                                                                               frog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (EC 3.1.4.11) beta-2 -
                                                                                                                                                                                              mediated through a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphodiesterase
                                                                                                                                                                                                                                                                                       22-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                              Ţ;
                                          1-phosphatid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        domain
domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1-phosphatic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
                                                                                                                                                                                              beta-typ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ××
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hor
```

```
Sequence Database,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           January
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000
          A;Cross-references: GB:J03137; R;Ryu, S.H.; Kim, U.H.; Wahl, !
                                                                                                              A; Molecule type: mRNA
A; Residues: 1-1216 <KAT>
                                                                                                                                                                                                                                                      A; Title: Determination of the primary structure of PLC-154 A; Reference number: A28822; MUID:88270496; PMID:2455601
                                                                                                                                                                                                                                                                                                                                                         C;Accession: A28822; A39236
R;Katan, M.; Kriz, R.W.; Tot
Cell 54, 171-177, 1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) I - bovine N;Alternate names: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta; C;Species: Bos primigenius taurus (cattle) C;Date: 28-Aug-1989 #sequence_revision 28-Aug-1989 #text_change 22-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Keywords: phosphoric diester hydrolase F;314-463/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase F;543-663/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Note: 885-His was also found C; Superfamily: 1-phone-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Molecule type: protein
A;Residues: 284-292,'X',294-296,'R';568-577;751-753,'L',755-759;765-776,'T',778-780;8
A;Experimental source: erythrocyte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: protein
A; Residues: 210-216, 'M', 218-231; 244-248; 284-291; 345-353, 'S', 355-360; 453-461; 661-679
A; Experimental source: erythrocyte
R; Waldo, G.L.; Morris, A.J.; Klapper, D.G.; Harden, T.K.
Mol. Pharmacol. 40, 480-489, 1991
Mol. Pharmacol. 40, 480-489, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                odiesterase domain Y homology
                                                                                                                                                                                                                            A; Accession: A28822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Reference number: A61270; MUID: 92017673; A; Accession: A61270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mol. Pharmacol. 40, 480-489, 1991
A;Title: Receptor- and G-protein-regulated 150-kDa avian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ished by immunoreactivity and peptide sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: GB:U49431; NID:g1223919; PIDN:AAC60011.1; A;Experimental source: erythrocyte A;Accession: S72374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Title: Molecular cloning, A; Reference number: S68251;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biochem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Waldo,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ůů
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   phospholipase C, inositol-lipid specific (EC 3.1.4.-) isoform C; Species: Meleagris gallopavo (common +...t....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S68251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       \label{eq:fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fisher_fish
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Residues:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Accession: S68251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;Species: Meleagris gallopavo (common turkey);Date: 05-Dec-1996 #sequence_revision 07-Feb-1997;Date: 05-Dec-1996 #sequence_revision 07-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        322 QDMTQPLSHYFI 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       694 FWNAGCQMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QDMTQPLSHYFI 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FWNAGCQMVALN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            316,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1-1211 <WAL1>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Paterson, A.; B
6, 559-568, 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                   R.W.; Totty, N.; Philp,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.08; ++
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   expression and MUID:96257751;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Boyer, J.L.; Nicholas,
                                                    NID: g163521; PIDN: AAA30702.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 12;
Pred. No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      No.
                                                                                                                                                                                                                                                                                                                                                                                                                   R.; Meldrum,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PMID:1656188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   regulatory activity of G-alpha(11) - and PMID:8687401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0.0054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.0054;
     Carpenter,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               #text_change 22-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1210;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                   E.; Aldape, R.A.; Knopf, J.L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phospholipase
                                                                                                                                                                                                                                                                                                     demonstrates diversity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Harden,
     G.;
                                               PID: g163522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PID:g1223920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  beta - turkey
Huang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
```

C: inhibition

ģ

Gaps

0;

I; 1-phospha

domain domain

X.P.;

Rhee,

ß

of.

рh

```
A;Title: Feedback regulation o
A;Reference number: A39236; MU
A;Accession: A39236; MU
A;Accession: A39236
A;Molecule type: protein
A;Residues: 879-889 cRYU-
C;Superfamily: 1.phosphatidyli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Keywords: phosphoprotein; phosphoric diester hydrolase F;318-467/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain F;339-659/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain F;887/Binding site: phosphate (Ser) (covalent) (by protein kinase C) #statu@ experi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Experimental source: brain C; Superfamily: 1-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Suh, P.G.; Ryu, S.H.; Moon, K.H.; Suh, H.W.; Rhee, S.G. Cell 54, 161-169, 1998
A;Title: Cloning and sequence of multiple forms of phospholipase A;Reference number: A90899; MUID:88270495; PMID:3390863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N;Alternate names: triphosphoinositide phosphodiesterase C;Species: Rattus norvegicus (Norway rat) C;Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change C;Accession: A28821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Keywords: phosphoprotein; phosphoric diester hydrolase F;318-467/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain F;539-659/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   odiesterase domain Y homology
                                                                                                                                                                                                                                   R;Shibatohge, M.; Kariya, K.; Liao, Y.; Hu, C.D.; Watari, Y.; Goshima, M.; Shima, F.; Kd
J. Biol. Chem. 273, 6218-6222, 1998
A;Title: Identification of PLC210, a Caenorhabditis elegans phospholipase C, as a putati
A;Reference number: Z22164; MUID:98165800; PMID:9497345
A;Accession: T42440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: mRNA
A; Residues: 1-1216 <SUH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) I-N; Alternate names: triphosphoinositide phosphodiesterase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A28821
                                                               A;Molecule type: mRNA
A;Residues: 1-1898 <SHI>
A;Residues: 1-1898 <SHI>
A;Cross-references: EMBL.AF044576; NID:g2957269; PIDN:AAC38963.1; PID:g2957270
C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X homol
F;912-1058/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X h
                                                                                                                                                                                                                                                                                                                                                                     phospholipase C homolog - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 02-Sep-2000 C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 02-Sep-2000 C;Accession: T42440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              T42440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  odiesterase domain Y homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Accession: A2882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Reference number: A90899;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 8
                                                                                                                                                                                                          A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase I; 1-phosphatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cross-references: GB:M20636; GB:J03136; NID:g206217; PIDN:AAA41885.1; PID:g206218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               614 FWNAGCQMVALN 625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              694 FWNAGCQMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       614 FWNAGCQMVALN 625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         694 FWNAGCQMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POCGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    265, 17941-17945,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.0°;
100.08; Pi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%;
  0.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MUID:91009263;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of phospholipase C-beta by protein kinase C.wUID:91009263; PMID:2211670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 12;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 12;
Pred. No.
     Score 11;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.0055;
     DB 2;
0.085;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0.0055;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1216;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1216;
                           Length 1898;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               #status experimenta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 I; 1-phosphatic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           x y hon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ××
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nod
nod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Accession: B28821
```

```
hypothetical protein F31B12.1 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 02-Sep-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Map position: X
A;Introns: 44/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 144/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 193/1; 193/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 193/3; 108/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 193/3; 108/3; 536/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 44/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 44/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 44/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 44/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 44/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 44/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 44/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 44/1; 425/3; 486/3; 536/3; 536/3; 536/3; 619/2; 708/1
A;Introns: 44/1; 425/3; 486/3; 536/3; 536/3; 536/3; 619/2; 708/1
A;Introns: 44/1; 425/3; 486/3; 536/3; 536/3; 536/3; 619/2; 708/1
A;Introns: 44/1; 425/3; 486/3; 536/3; 536/3; 619/2; 708/1
A;Introns: 44/1; 425/3; 486/3; 536/3; 536/3; 619/2; 708/1
A;Introns: 44/1; 425/3; 486/3; 619/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2; 708/2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Reference number: 219444
A; Accession: T21581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                submitted to the EMBL Data Library, August 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R; Kershaw,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Experimental source:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Residues: 1-1922 <WIL>
A; Cross-references: EMBL: Z50740;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Gene: CESP: F31B12.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                   Query Match
1026 PVILSIENHCS 1036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                410
                                                                                                                 410 PVILSIENHCS 420
                                                                                                                                                                                                                                                                                    Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PVILSIENHCS 1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PVILSIENHCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       T21581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             clone F31B12
                                                                                                                                                                                                                                                                                          0.9%; Score 11;
L00.0%; Pred. No.

 Mismatches

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PIDN:CAA90606.1; GSPDB:GN00028; CESP:F31B12.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                          DB 2; Length 1922; 0.086;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>..</u>
                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                              0
```

1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-1-N;Alternate names: phosphoinositidase C; phospholipase C-delta-1; triphosphoinosit C;Species: Rattus norvegicus (Norway rat) triphosphoinositide

C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 02-Jun-2000 C;Accession: B28821; I55942 R;Accession: B28821; I55942 R;Accession: B28821; I55942 R;Accession: B28821; I51-169; Byu, S.H.; Moon, K.H.; Suh, H.W.; Rhee, S.G. R;Accession: Byu, 161-169; 1988 A;Title: Cloning and sequence of multiple forms of phospholipase C. A;Reference number: A90899; MUID:88270495; PMID:3390863

A; Molecule type: mRNA A; Residues: 1-756 <SUH>

A; Experimental source: brain A;Cross-references: GB:M20637; GB:J03136; NID:g206219; PIDN:AAA41886.1; PID: g206220

R;ragisawa, H.; Tanase, H.; Nojima, H.
J. Hypertens. 9, 997-1004, 1991
A;Title: Phospholipase C-delta gene of the spontaneously hypertensive
A;Reference number: I55942; MUID:92098966; PMID:1684614 rat harbors

A; Accession: I55942

A;Molecule type: mRNA A;Residues: 1-411,'M',413-422,'S',424-462,'D',464-626,'A',628,'K',630-667,'A',669-756 A;Cross-references: GB:S74591; NID:9241276 A;Status: preliminary; translated from GB/EMBL/DDBJ A; Note: this translation is not annotated in GenBank entry S74591, release 113.0

A; Note: spontaneously hypertensive mutant C; Comment: The products of hydrolysis, diacylglycerol and D-myo-inositol 1,4,5-tripho C; Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta-1; 1-p phosphodiesterase domain x homology; calmodulin repeat homology; pleckstrin repeat ho C; Keywords: duplication; EF hand; lipid degradation; phosphoric diester hydrolase; si F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: pleckstrin repeat homology <PLK>
F; 19-128/Domain: plecks

F;140-172/Domain: calmodulin repeat homology <EF1> F;176-208/Domain: calmodulin repeat homology <EF2>

F;298-440/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X F;491-612/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain Y F;614-724/Domain: protein kinase C C2 region homology <KC2>

protein kinase C C2 region homology <KC2>

hon hor

```
A;Introns: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1; 62
C;Superfamily: yeast 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase; 1-phosphosphodiesterase domain Y homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Expérimental source: strain Bristol N2; clone K10F12 C; Genétics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 12
T32374
                                                                                                                                                                                                                                                                                                                                                                                                                               A; Gene: CESP: K10F12.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: EMBL:AF025462; PIDN:AAB71005.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: DNA
A; Residues: 1-895 < WOH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         submitted to the EMBL Data Library, September 177, submitted to the EMBL Data Library, September 177, september
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hypothetical protein K10F12.3 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change C;Accession: T32374 C. R;Wohldmann, P.; Beck, C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: GB:M95783; NID:g167846; PIDN:AAA33235.1; PID:g167847
A;Kote: sequence extracted from NCBI backbone (NCBIP:113302)
C;Superfamily: 1-phosphatidylinosito1-4,5-bisphosphate phosphodiesterase delta-1; 1-phosphotiesterase domain r homology; calmodulin repeat homology; pleckstrin repeat homol C;Keywords: EF hand; phosphoprotein; phosphoric diester hydrolase
F;324-465/Domain: 1-phosphatidylinosito1-4,5-bisphosphate phosphodiesterase domain x hom F;538-656/Domain: 1-phosphatidylinosito1-4,5-bisphosphate phosphodiesterase domain x hom F;558-769/Domain: protein kinase C C2 region homology <KC2>
                                                                                                                                                                                                                                                                                                                                                                                                      A; Map
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Accession: T32374
A;Status: prelimina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N;Altern
C;Specie
C;Date:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;Drayer, A.L.; van Haastert, P.J.
J. Biol. Chem. 267, 18387-18392, 1992
A;Title: Molecular cloning and expression of a phosphoinositide-specific phospholipase A;Reference number: A44165; MUID:92406741; PMID:1326523
A;Accession: A44165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Residues: 1-801 <DRA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Status: preliminary; not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C; Accession: A44165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1-phósphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) - slime
N;Alternate names: phosphoinositide-specific phospholipase C
C;Species: Dictyostelium discoideum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 11
                                                                                                                            Query Match
Best Local
                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                             ^\dagger487/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X ho
                                                                                                                                                                                                                                                                                                                                                                                              position:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            640 NGGCGYVLKP 649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     723 NGGCGYVLKP 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     596 NGGCGYVLKP 605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              723 NGGCGYVLKP 732
                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 28-Jul-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            preliminary; translated from GB/EMBL/DDBJ
ب
                                                                                    10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The sequence of C. nber: Z21157
                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                100.08; F1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
                                                                                                            0.8%; Score 10;
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0.8%; Score 10; DB 1; Length 756; 100.0%; Pred. No. 0.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 10;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches
                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                     DB 2;
                                                                                                                0.47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0.43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1;
                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                 Length 895;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GSPDB:GN00021; CESP:K10F12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 801;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28-Jul-2000
                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                    Gaps
                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mold
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                 밁
                                                            RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                               F; 302^{-444}/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase F; 486^{-606}/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
```

Local

Similarity

10;

Conservative

100.08; ٢1

Score 10; Pred. No.

DB 1; 0.51;

Length 997

domain domain

Mismatches

0,

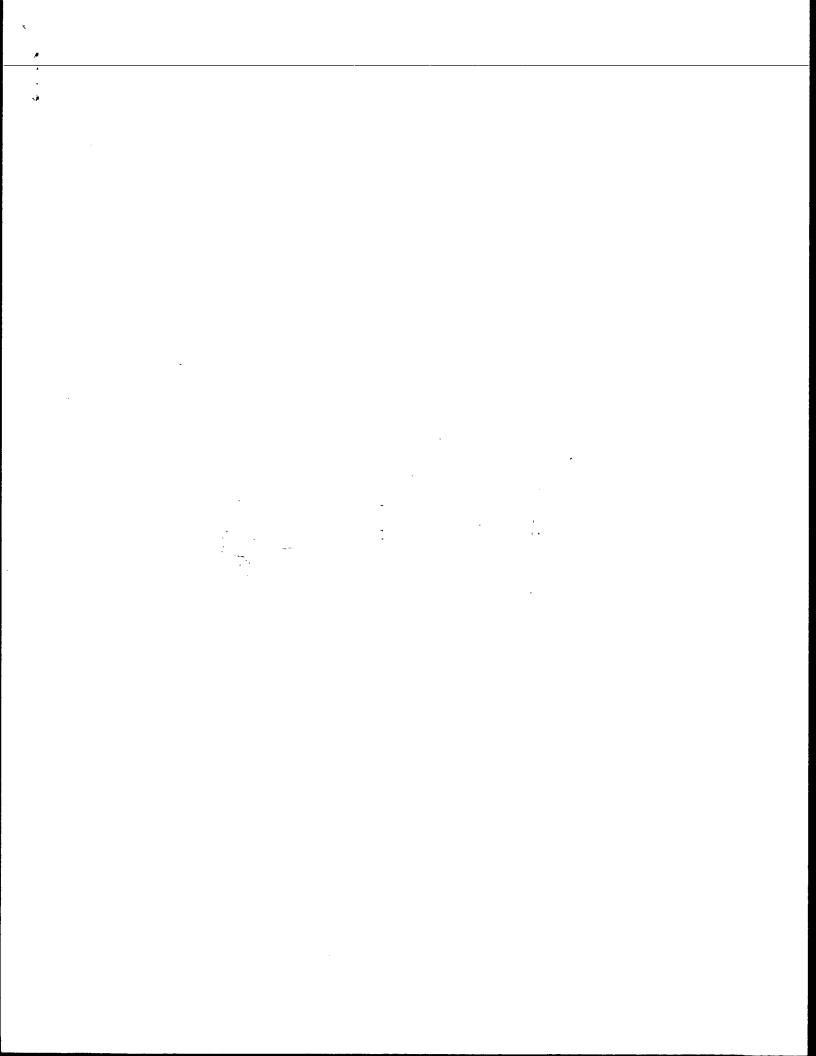
Indels

0;

```
A;Gene: GDB:PLCE; PLC-L
A;Gene: GDB:PLCE; PLC-L
A;Cross-references: GDB:699207; OMIM:600597
A;Map position: 2q33-2q33
C;Superfamily; human phosphoinositide-specific phospholipase C; 1-phosphatidylinosito
                                                                                                                                                                                                                                                                    C;Accession: I54390
R;Kohno, T.; Otsuka, T.; Takano, H.; Yamamoto, T.; Hamaguchi, M.; Terada, M.; Yokota, Hum. Mol. Genet. 4, 667-674, 1995
A;Title: Identification of a novel phospholipase C family gene at chromosome 2q33 tha A;Reference number: I54390; MUID:95359973; PMID:7633416
A;Accession: I54390
                           domain Y homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: DNA
A; Residues: 1-896 <WIL>
A; Cross-references: EMBI
                                                                                                                                                                         A;Cross-references: GB:D42108; NID:g780121; PIDN:BAA07688.1; PID:g780122
                                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 1-997 < RE
                                                                                                                                                                                                                                                                                                                                                                                                                                   C:Species: Homo sapiens (man)
C:Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A:Introns: 21/3; 54/3; 115/3; 163/2; 189/3; 223/2; 273/1; 325/1; 642/2; 674/3; 783/1; C:Superfamily: squid 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase; 1-phoosphodiesterase domain Y homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         phosphoinositide-specific phospholipase C (EC 3.1.4.-) epsilon - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          F;306-467/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain
                                                                                                                                                                                                                                                            A:Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   I54390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Map position:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Gene: CESP:Y75B12B.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Experimental source:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Status:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Accession: T27376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Reference number:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    submitted to the EMBL Data Library, October 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C; Accession: T27376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hypothetical protein Y75B12B.6 - Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
; Keywords: phosphoric diester hydrolase
                                                                                                                                                              Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      409 YPVILSIENH 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  401 YPVILSIENH 410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            723 NGGCGYVLKP 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NGGCGYVLKP
                                                                                                                                                                                                                1-997 <RES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL:AL032663; P
ce: clone Y75B12B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Z20360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.8%; Score 10;
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PIDN:CAA21765.1; GSPDB:GN00023; CESP:Y75B12B.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2;
0.47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 896;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

```
S62358

N;Alternate names: phospholipase C delta 1 homolog
C;Species: Rattus norvegicus (Norway rat)
C;Species: Rattus norvegicus (Norway rat)
C;Species: Rattus norvegicus (Norway rat)
C;Species: Rottus norvegicus (Norway rat)
C;Species: Norvegicus (Norway rat)
C;Species: Norvegicus (Norway rat)
C;Species: Norvegicus (Norvegicus (Norway rat)
C;Species: Norvegicus (Norway rat)
A;Residues: 1-1096 (KANI)
A;Residues: 1-1096 (KANI)
A;Residues: 172-191;228-242;1024-1034 (KANI)
C;Superfamily: human phosphoinositide-specific phospholipase C; 1-phosphatidylinositol-4
C;Superfamily: human phosphoinositide-specific phospholipase C; 1-phosphatidylinositol-4
C;Superfamily: homology
F;401-543/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X hom
F;585-705/Domain: 1-phosphatidylinositol-4
                                                                                                                                                                                                                                                              밁
Search completed: March 28, 2003, 14:06:00 Job time: 60 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 0.8%; Score 10; DB 1; Length 1096; Best Local Similarity 100.0%; Pred. No. 0.56; Matches 10; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                              399 QDMTQPLSHY 408
                                                                                                                                                                                                                                                                                                                                                                            322 QDMTQPLSHY 331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
```



Run on:

```
Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Word size :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OLIGO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-927-112-2
1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      March 28, 2003, 13:53:20 ; Search time 29 Seconds (without alignments) 1726.273 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            112892 seqs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
 SwissProt_40:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MAPPTAGPLPGPALPPEDPG.....ALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length DB
 41476328 residues
Y450_HUMAN
P1B1_HUMAN
P1B1_HUMAN
P1B1_HUMAN
P1B1_RAT
P1D1_RAT
P1D1_RAT
P1D1_RAT
P1D1_RAT
P1D1_RAT
P1D1_HUMAN
P1B4_RAT
P1G1_BOVIN
P1G1_RAT
P1G1_BOVIN
P1G1_BOVIN
P1G1_BOVIN
P1G1_HUMAN
P1G2_HUMAN
P1G2_HUMAN
P1G2_HUMAN
P1G2_HUMAN
P1G2_HUMAN
P1G2_RAT
P1G1_HUMAN
P1G2_RAT
P1G1_HUMAN
P1G2_RAT
P1G1_RAT
P1G1_RAT
P1G1_RAT
P1G1_RAT
P1G2_HUMAN
P1G2_RAT
PMNZ_MOUSE
P1G2_HUMAN
P1G2_HUMAN
P1G2_RAT
PMNZ_MOUSE
P1G2_HUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        parameters:
 Q9Wx15
P47144
P47147
P51178
P36097
Q01970
P51432
P16885
P216885
Q91104
Q9x1f5
Q9x1f5
Q9x1f5
Q9x1f5
Q9x1f5
Q9x1f5
Q9x1f5
Q9x1f5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   075038
Q00722
P10894
                                                                                                                                                                                                                                                                  P09485 lytechinus
Q8zam1 yersinia pe
Q9kvq4 vibrio chol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Description
                                                                                                                                                                                                                                                                                                                                                                                                                                Q15147
                                                                                                                                                                                                                                                                                                     3 mus musculu
5 lytechinus
5 lytechinus
                                                                                                                                                                                                                                                                                                                                                                                                                                             rattus norv
rattus norv
dictyosteli
drosophila
                                                                                                                                           homo sapien
mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   bos taurus
homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                            homo sapien
rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    homo sapien
                                                                     thermotoga
                                                                                                          rattus
                                                                                                                                                                                                                                 streptomyce
bos taurus
                    pseudomonas
salmonella
                                                        acinetobact
                                                                                           mus musculu
                                                                                                          homo sapien rattus norv
                                                                                                                                                                                              homo sapien
                                                                                                                                                                                                                  saccharomyc
                                                                                                                                                                                                                                                                                                                                                          bos taurus
                                                                                                                                                                                                                                                                                                                                                                           rattus norv
                                                                                                                                                                                                                                                                                                                                                                                             homo sapien
```

Result No.

Š 밁 Q

1124 ALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAASAWTVSPRV 1183

1064 CGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPEGACRQPG 1123 CGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPEGACRQPG 341

				•	-																	
	Qу	Оу	40 A	ું. ક્રુજ્ય છે	SO KW	8888	888	CPF	RT A	R R R	RR	8 8 8 8 8		ar i	RESULT Y450_H							
	1004 I 222 I	944 V 162 V	884 V 102 V	Query Match Best Local Matches 32	EMBL; AB(Hypothet: SEQUENCE	modified entities or send		from h	Nakaji "Chara	KE DES	[1]		16-OCT-2001 16-OCT-2001 16-OCT-2001 Hypothetical	Y450_HUMAN 075038;	LT 1 HUMAN		443 454	41 42	39	36 37 38	35	
	DGPGPA DGPGPA	'LGTRD' CTRD'	KQALGI KQALG	ch l Simi 324;	00	ρ	SWISS-PR een the European	n human k Res. 4:	ma D., cteriz	E-Brair NE-9811	ENCE FROM N	sapiens ryota; M	-2001 -2001 -2001 etical	UMAN ;			777	7	77	777	7	
	DGPGPAGMAATCMKCVVG 	TGSKGVA TGSKGVA	VKQALGLKGLFLRGPKPGSLDSHAAGRP VKQALGLKGLFLRGPKPGSLDSHAAGRP	ilarity Conserva	> 0 ×	this this lires	SWISS-PROT entry een the Swiss Ins European Bioinform	n human brain."; Res. 4:345-349(1997).	Nakajima D., Nomura N., Ol "Characterization of cDNA	X 2:	OM N.A.	ns (Human) Metazoa; Eutheria;	(Rel. 40, (Rel. 40, (Rel. 40, l protein F	STAI						000		
	KCVVGS	######################################	GPKPGS 	26. 100 tive	BAA32295. tein. A; 43842	L L	OT entry is copy Swiss Institute Bioinformatics I	(1997)	of cDN/	PubMed=9 Nagase		Ch Ch	to, Created, 40, Last sequ 40, Last anno in KIAAO450.	TANDARD;			264 264					
	CAG	GPG 	SQT 	0 %	.1;	nse	tut	!	Ohara A clo	=9455 e T.,		ordata imates	3t 5	į t								
	VNTGG	PAPEAI PAPEAI	HAAGRI HAAGRI	Score; Pred; 0; Mis		tement is not re- icense agreement icense@isb-sib.c	yric of Inst		=	4			Last sequence ul Last annotation KIAA0450.	PRT;		ĀL	APA1_ANAPI APA1_CHICK APA1_COTJA	YCBO_	PIG1_MOUSE RERC_ARATH	RBFA_RHILO PFD5_YEAST ING SIGHI	HOLD_	
 	LORE LORE	PAQE	PPAR		\6D7	## d .	ַב הַ רָּ		in :	84; Ishikawa		nia	tio	••		IGN	L_ANAPL L_CHICK L_COTJA	YEAST	MOUS ARAT	RHILO YEAST IGHI	ECOLI	
	;¤GPAGMAATCMKCVVGSCAGVNTGGLQRERPPSDGPASRQAAIRQQPRARADSLGAPC 	VLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGPGSGSPRGKAPAAVAEKSPVRVRPPRVL 	SLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPE SLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPE	324; DB 1; Length 4 . No. 0; smatches 0; Indels	2A6D733CA149E665 CRC64	moved. Usag (See http:/ h).	t is produced formatics and . There are r		ze-fract	wa KI., Miyajima		Craniata; Vertebrata; E Catarrhini; Hominidae; I	update) on update)	425 AA.		ALIGNMENTS				н 0		
	PRARAD PRARAD	KSPVRV KSPVRV	SQKPGR SQKPGR	h 425; els	•	an isb-	답합ם		CDNA	N.,		Euteleostomi Homo.					042296 P08250 P32918	P25554	Q62077 Q9zw17	Q98bi7 Q04493 Q9qxx2	P28632 P11740	
	STG	RPPI 	RGFI	0;		ib.	BL o	-	libr			stom										
í			L – L	Gaj		c cor	collabo outsta Lions o		libraries			Ľ;						ccha	s mu abid	hizobium accharom igmodon	scher	
2	1063 281	1003 221	943 161	sdi		r commercia ch/announce	rat		Š			•					platyr us gall nix co	~ ~	mus musculu arabidopsis	rhizobium l saccharomyc sigmodon hi	₽.	
				0;		ial ce/	its															

```
Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                       pfam; pF00168; C2; 1.
pfam; pF00387; pI-pLC-Y; 1.
pfam; pF00388; pI-pLC-X; 1.
pfam; pF00388; pI-pLC-X; 1.
pRINTS; pR00390; pHpHLIPASEC.
pRINTS; pR00390; pI_pLC_Y; 1.
                                                           ProDom; PD001202; PI_PLC_Y; SMART; SM00239; C2; 1. SMART; SM00148; PLCXC; 1. SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Park D., Jhon D.-Y., MILC N., NOTE OF THE SECOND MESSENGER MOLECULES

Phospholipase C-beta 2.",

U. Biol. Chem. 267:16048-16055(1992).

-i- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES

DIACYLGLYCEROL (DAG) AND INOSITOL 1.4,5-TRISPHOSPHATE (IP3) IS

DIACYLGLYCEROL (DAG) AND INOSITOL 1.9-5-TRISPHOSPHOLIPASE
                                                                                                                                                                                                                                                       MIM
 PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIFLC_X_DOMAIN; 1.
PROSITE; PS50008; PIFLC_Y_DOMAIN; 1.
Pydrolase; Lipid degradation; Transdu
    Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                EMBL; M95678; AAA36453.1; -.
                                                                                                                                                                                                                                                                                                                                                       entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
MEDLINE=92355553; Pubmed=1644792;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-JUL-1993 (Rel. 26, Created)
01-JUL-1993 (Rel. 26, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 2
[EC 3.1.4.11) (PLC-beta-2) (Phospholipase C-beta-2).
                                                                                                                                                                                                                                                                                                PIR; A43346; A43346.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Park D., Jhon D.-Y., Kriz R., Knopf J., Rhee S.G.; "Cloning, sequencing, expression, and Gq-independent activation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1184
                                                                                                                                                                                                       nterPro;
                                                                                                                                                                                                                                                                                                                                                                          use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (Human).

Motazoa: Chordata;
                                                                                                                                                                                                                        nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    000722;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PIB2_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OF PLC AND ARE ESSENTIAL FOR CATA
1- SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              402
                                                                                                                                                                                                                                                                                                                                           send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COPACTOR: Calcium.
MISCELLANEOUS: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-BETA-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)0 - D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: DOMAINS X AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOST EFFECTIVELY MEDIATED ALPHA-16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            diacylglycerol.
                                                                                                                                                                                                                                                    604114; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LVLVALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                   P10688;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LVLVALYPWHCLRGTLLPWLACGP 425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HGNC: 9055; PLCB2.
                                                                                                                                                                                  IPR000008; C2.
IPR001192; PI_PLC.
IPR00909; PI_PLC_xdom.
IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                   1DJX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FOR CATALYTIC ACTIVITY.
Transducer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Y ARE CONSERVED IN DIFFERENT FORMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BY ONE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1181 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             G-PROTEIN ALPHA
                                                                                                                                                                                                                                                                                                                                                                     Usage
                                                                                                                                                                                                                                                                                                                                                                       γď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUBUNIT,
                                                                                                                                                                                                                                                                                                                                                                          and
                                                                                                                                                                                                                                                                                                                                                                                       is in
                                                                                                                                                                                                                                                                                                                                                                     for
                                                                                                                                                                                                                                                                                                                                                                       commercia
                                                                                                                                                                                                                                                                                                                                                                                       no
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PIB1_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Solution
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 12
                                 Pfam;
Pfam;
                                                         Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P10874;
P10874;
O1-UUL-1989 (Rel. 11, Created)
O1-UUL-1989 (Rel. 11, Last sequence update)
O1-UUL-1989 (Rel. 41, Last annotation update)
15-UUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 1
(EC 3.1.4.11) (PLC-beta-1) (Phospholipase C-beta-1) (PLC-I) (PLC-154).
                                                                                                                                                                                                modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
    ProDom; PD001202;
                                                                                                                                  PIR; A28822; A28822.
HSSP; P10688; 1DJX.
                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACT_SITE
ACT_SITE
SEQUENCE
                                                                                       InterPro;
                                                                                                                                                             EMBL; J03137; AAA30702.1;
                                                                                                                                                                                         or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                 the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                           -i- MISCELLANEOUS: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-BETA 1 I MEDIATED BY TWO G-PROTEIN ALPHA SUBUNITS, ALPHA-Q AND ALPHA-11.
-i- SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS
                                                                                                                                                                                                                                                                                                                                                                                                     -i- CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)O = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               diversity of phosphoinositide-specific phospholipase Cell 54:171-177(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Katan M., Kriz R.W., Totty N., Philp R., Meldrum E., Aldape R.A.,
Knopf J.L., Parker P.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
DOMAIN
                                                                                                       [nterPro;
                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                              -1- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGIZCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Determination of the primary structure of PLC-154 demonstrates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=88270496;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PIB1_BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             616 FWNAGCOMVALN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        694 FWNAGCQMVALN 705
                                                                                                                                                                                                                                                                                                         OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY. SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                              COFACTOR: Calcium.
                                                                                                                                                                                                                                      у
                           PF00168; C2; 1.
PF00387; PI-PLC-Y; 1.
PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                           ENZYMES
PR00390; PHPHLIPASEC. PD001202; PI_PLC_Y; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    l Similarity
12; Conserv
                                                                                                                                                                                                                                   non-profit
                                                                     IPR000008; C2.
IPR001192; PI_PLC.
IPR0001909; PI_PLC_Xdom.
IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                            glycerol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           312
542
665
327
374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PubMed=2455601;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         463
658
763
327
374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AND PARTIAL SEQUENCE
                                                                                                                                                                                                                             rmatics Institute. There are no restrictions on institutions as long as its content is in no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 12;
; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C2 DOMAIN.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN X (BY SIMILARITY).
DOMAIN Y (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7A6889F204D17FA4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1216 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 1;
. 0.0028;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1181;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         activities.";
                                                                                                                                                                                                                                                             EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                       collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACT_SITE
ACT_SITE
MOD_RES
Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R., Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L., Batley J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M., Bearsley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J., Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P., Chep C.M., Clark G., Clark L.N., Clark S.Y., Clee C.M., Cleg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R., Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M., Ellington A.G., Frankland J.A., Fraser A., French L., Garner P., Ellington A.G., Frankland J.A., Fraser A., French L., Garner P., Hammond S., Harley J.L., Heath P.D., HO S., Holden J.L., Howden P.J., Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D., Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
                                                                                                                                                                                                                                                       Peruzzi D., Calabrese G., Faenza I., Manzoli L., Matteucci A., Gianfrancesco F., Billi A.M., Stuppia L., Palka G., Cocco L., "Identification and chromosomal localisation by fluorescence in hybridisation of human gene of phosphoinositide-specific phospho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-OCT-2001 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 1
(EC 3.1.4.11) (PLC-beta-1) (Phospholipase C-beta-1) (PLC-I) (PLC-154).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PIB1_HUMAN
Q9NQ66; Q9NQ65;
Q9UM26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN; 1
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PLCB1 OR KIAA0581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SMART;
                                                                                                                                                                                                                                                                                                              MEDLINE=20225428; PubMed=10760467;
                                                                                                                                                                                                                                                                                                                                                                                                                 Caricasole
                                                                                                                                                                                                                                                                                                                                                                                                                               PubMed=11118617;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                              Biochim.
                                                                                                                                                                                                                                                                                                                              TISSUE-Brain;
                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. (ISOFORM A).
                                                                                                                                                                                                                                                                                                                                                                                     phospholipase
                                                                                                                                                                                    MEDLINE=21638749;
                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                 "Cloning
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FWNAGCQMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FWNAGCQMVALN 625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SM00239;
SM00148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SM00149;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                      le A., Sala c., nowment and characterization of the human ipase C-beta 1 (PLObetal).";
1517:63-72(2000).
                                                                                                                                                                                                                              Biophys. Acta 1484:175-182(2000).
                                                                                                                                                                                                                                                                                                                                                                     Biophys. Acta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;; Lipid degradation; 7
316 467
540 656 DC
663 761 CC
331 331
3378 378 BB
378 378 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD; ; Q9NQH9; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PLCXc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ä,
                                                                                                                                                                                    PubMed=11780052;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           (ISOFORMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9NTH4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN X.
DOMAIN Y.
C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Œ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 12; DB Pred. No. 0.0 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Transducer; Phosphorylation; Calcium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             060325; Q9н4н2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BEF809177F1B7ABB
                                                                                                                                                                                                                                                                                                                                                                                                                                                           В).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1216 AA.
                                                                                                                                                                                                                                                                                                                                                                                                 Formenti E., Terstappen G.C.; human phosphoinositide-specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0.0029;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1216;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9BQW2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PKC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9UJP6;
                                                                                                                                                                                                                                                          phospholipase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                         situ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
```

```
Lehvaslaiho M.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D., Marsh V.L., Martin S.L., McConnachie L.J., McLay K., McMurray A.A., Mille S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T., Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I., Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H., Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Shownkeen R., Sins S., Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E., Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A., Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M., Whitlehead S.L., Whitlams L., Williams L., Williams S., Whitlams S.L., Whitlams L., Williams S., Williams S.L., Whitlams B., Williams S., Williams S.L., Williams S., Williams 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            code
                                                                                                                                                         use burypean Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentifies removes.
                                                                                                                                                                                                                                                                                                                                                                                    This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Testis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "The DNA sequence and comparative analysis of human chromosome Nature 414:865-871(2001).
EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nomura N., Ohara O.;
"Prediction of the coding sequences of unidentified human
The complete sequences of 100 new cDNA clones from brain v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=98290545;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 519-1216 FROM N.A. (ISOFORM A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Koehrer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rogers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nagase T., Ishikawa K.-I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE-Brain
                                                                                              or send an email to license@isb-sib.ch).
                                                                                                                                           entities requires a
                                                                                                                                                                                                                                                                                                                                       between
                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIATED BY TWO G-PROTEIN ALPHA SUBUNITS, ALPHA-Q AND ALPHA-11.
SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ROS. 5:31-39(1998).
FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
DIACYLGLYCEROL (DAG) AND INOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALTERNATIVE PRODUCTS: 2 ISOFORMS; A (SHOWN HERE) PRODUCED BY ALTERNATIVE SPLICING. MISCELLANEOUS: THE RECEPTOR-MEDIATED ACTIVATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           diacylglycerol
COFACTOR: Calc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                  SWISS-PROT entry is copyright. It is produced through 
een the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ENZYMES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               large proteins in vitro.";
5:31-39(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ဓ္
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (JAN-2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Beyer A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        261-1216 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Calcium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PubMed=9628581;
                                                                                                                                           license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mewes H.-W., Gassenhuber
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Miyajima N., Tanaka A., Kotani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (ISOFORM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ر
:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HERE) AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wiemann
                                                                                                                                                                                                                                                                                                                                       gh a collaboration - EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₩,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   which
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               genes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SI
```

InterPro; InterPro; HSSP; | Genew; EMBL; EMBL; EMBL; EMBL; EMBL; PRINTS; InterPro; AU278313; CAB98142.1;
AV278314; CAB98143.1;
AV004175; AAF86613.1;
AL031683; CAC16181.1;
AL031683; CAC34366.1;
AL031683; CAC34366.1;
AL049632; CAB46663.1;
AL137267; CAB70666.1;
AB1137267; CAB70666.1;
AB1137267; CAB70666.1;
AB11153; BAA25507.1; PF00168; C2; 2. PF00387; PI-PLC-Y; 3. PF00388; PI-PLC-X; 2. P10688; HGNC:15917 PR00390; PHPHLIPASEC IPR000008; C2.
IPR001192; PI_PLC.
IPR000909; PI_PLC_Xdom.
IPR001711; PI_PLC_Y. lbJX. PLCB1.

```
PIB1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SMART; SM00239; C2; 1.

SMART; SM00148; PLCXC; 1.

SMART; SM00149; PLCYC; 1.

PROSITE; PS50004; C2_DOMAIN_2; 1.

PROSITE; PS50007; PIPLC_X_DOMAIN; 1.

PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.

Hydrolase; Lipid degradation; Transducy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CONFLICT
CONFLICT
CONFLICT
CONFLICT
CONFLICT
CONFLICT
CONFLICT
CONFLICT
CONFLICT
CONFLICT
  "Cloning, sequencing, purification, and Gq-dependent activation phospholipase C-beta 3.";
J. Biol. Chem. 268:6654-6661(1993).
1- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOI
                                                                                                                                                                       ACTIVITY, TISSUE SPECIFICITY, AND SUBCELLULAR LOCATION MEDLINE=93203266; PubMed=8454637; jhon D.-Y., Lee K.-H., Park D., Lee C.-W., Lee K.-H.,
                                                                                                                                                               Rhee
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
(EC 3.1.4.11) (PLC-beta-1) (Phospholipase C-beta-1) (PLC-I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACT_SITE
                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. MEDLINE=88270495;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                 Cloning
                                                                                                                                                                                                                                                                                                                                                                                                                                           WCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               694 FWNAGCOMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IB1_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                         P.-G., Ryu S.H., Moon K.H., Suh H.W
                                                                                                                                                            S.G.;
                                                                                                                                                                                                                                                                                         54:161-169(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               316
540
663
331
378
887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA;
                                                                                                                                                                                                                                                                                                                                                      PubMed=3390863;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    467
656
761
331
378
378
887
1216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 138566
PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Teledorkad.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 12;
Pred. No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BY SIMILARITY.

BY SIMILARITY.

PHOSPHORYLATION (BY PKC) (BY SIMILARITY).

LOVELEQEYQDKFKRLPLEILEFVQEAMKGKISEDSHHGSA
PLSLSSDPGKVHKTPSSEELGGDIPGKEFTPFL -> GEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LQGIATKILIRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MAGAQPGVHALQLKPVCVSDSLKKGTKFVKWDDD ->
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SSSFLSETCHEDPSVSPNFTPPNPQALKW (IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        H (IN N (IN N (IN N ) ) A (IN N ) A 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Transducer; Phosphorylation; Calcium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6F4263D1A50C6FD1
                                                                                                                                                                       C.-W., Lee K.-H., Yoo O.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         No.
                                                                                                                                                                                                                                                                                                         of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1;
0.002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REF.
REF.
REF.
REF.
REF.
REF.
REF.
REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ປ.0029;
0;
                                                                                                                                                                                                                                                                                                                                   Rhee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LSDALIRKETDLKS (IN REF.
                                                                                                                                                                                                                                                                                                      Rhee S.G.;
phospholipase
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; CAB98143).
6FD1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1216;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (PLC-I)
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Murinae;
                                                                                                                                                                                                                                                                                                         ი
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        beta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (PLC-154).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                          SI
                                                                                                                          of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ISOFORM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
```

밁 Š

```
RESULT
PID1_RA
                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS; PR00390; PHPHLIPASEC.
ProDom; PD001202; PI_PLC_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
PROSSITE; PS50004; C2_DOMAIN_2; 1.
                                                                            PID1_RAT STANDARD; PRT; 756 AA.
P10688; Q9QVD3; Q9QVD4; Q9QVD5;
01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta_(EC_3.1.4.11) (PLC-delta-1) (Phospholipase C-delta-1) (PLC-III).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS50004; C2_LUMAIN; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
Hydrolase; Lipid degradation; Transda Hydrolase; Lipid degradation; Transda Hydrolase; Lipid degradation; Transda Hydrolase; Lipid degradation; Transda Hydrolase; Lipid degradation; Transda Hydrolase; Lipid degradation; Transda Hydrolase; Lipid degradation; Transda Hydrolase; Property Lipid Hydrolase; Lipid degradation; Transda Hydrolase; Property Lipid Hydrolase; Lipid degradation; Transda Hydrolase; Lipid degradation; Lipid degradati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
ACT_SITE
ACT_SITE
MOD_RES
SEQUENCE
                            Eukaryota;
                                                  Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMATN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00168; C2; 1.
Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; M20636; AAA41885.1; -. PIR; A28821; A28821.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000008; C2.
InterPro; IPR001192; PI_PLC.
InterPro; IPR000909; PI_PLC_xdom.
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSP:
                                                                                                                                                                                                                                                                                                                                                     614 FWNAGCQMVALN 625
                                                                                                                                                                                                                                                                                                                                                                                                694 FWNAGCQMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 European Bioinformatics Institute. The by non-profit institutions as long a bified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIATED BY TWO G-PROTEIN ALPHA SUBUNITS, ALPHA-Q AND ALPHA-11.
SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUBCELLULAR LOCATION: Cytosolic and particulate fractions. TISSUE SPECIFICITY: Highest expression in brain. Also expressed parotid gland, liver, uterus, lung, heart, adrenal gland and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MISCELLANEOUS: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-BETA 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COFACTOR: Calcium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C ENZYMES.

CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate diacylglycerol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ovary. Not detected in spleen, pancreas, intestine,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SWISS-PROT entry is copyright. It is produced through a cen the Swiss Institute of Bioinformatics and the EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P10688;
                                                                                                                                                                                                                                                                                                                                                                                                                                              l Similarity
12; Conserv
    ; Metazoa;
Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      316
540
663
331
378
378
887
1216
                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          656
761
331
378
887
  Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  138344 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 12;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PHOSPHORYLATION (BY I
W; 92F23691781F788E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C2 DOMAIN.
Sciurognathi;
                        Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Transducer;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 1;
0.0029;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             There are no restrictions ong as its content is in
                     Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Phosphorylation; Calcium
Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1216;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PKC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CRC64;
                        Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   bу
Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              thymus
                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    collaboration -
Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
```

```
This SWI
                                                                                                                                                                                                                                                                                                                                                                                                           Essen L.-O., Perisic O., Lynch D.E., Katan M., Williams R.L.;
"A ternary metal binding site in the C2 domain of phosphoinositide-
specific phospholipase C-deltal.";
Biochemistry 36:2753-2762(1997).
-1- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Crystal structure of a mammalian phosphoinositide-specific phospholipase C delta.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Grobler J.A., Essen L.-O., Williams R.L., Hurley J.H.; "C2 domain conformational changes in phospholipase C-delta Nat. Struct. Biol. 3:788-795(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      X-RAY CRYSTALLOGRAPHY (2.4 ANGSTROMS) OF MEDLINE-96378790; PubMed-8784353;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ferguson K.M., Lemmon M.A., Schlessinger J., Sigler P.B.;
"Structure of the high affinity complex of inositol trisphosphate
with a phospholipase C pleckstrin homology domain.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kanematsu T., Takeya H., Watanabe Y., C
Iwanaga S., Hirata M.;
"Putative inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. MEDLINE-88270495; PubMed=3390863;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 133-756
MEDLINE-97215812; PubMed=9062102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           X-RAY CRYSTALLOGRAPHY (2.4 ANGSTROMS)
MEDLINE-96186808; PubMed-8602259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-96107342;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE-Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 50-57; 128-140 AND 728-738.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Suh P.-G., Ryu S.H., Moon K.H., Suh H.W., Rhee S.G.; "Cloning and sequence of multiple forms of phospholipase C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=10116;
[1]
                                                                                                                                                                                                                                                                                                                      ++
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               X-RAY CRYSTALLOGRAPHY (1.9)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-92202192; PubMed-1313009;
                                                                                                                                     유
                                                                                                                                                  entities
                                                                                                                                                                                                  the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nature 380:595-602(1996).
                                                                                                                                    tities requires a license agreement (S send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                      COFACTOR: Calcium.

SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.

SIMILARITY: CONTAINS 1 PH DOMAIN.

SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.
                                                                                                                                                                                                                                                                                                                                                   CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate diacylglycerol.
                                                                                                                                                                                               European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a phospholipase C p
83:1037-1046(1995).
 1DJY;
1DJX;
1DJX;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 54:161-169(1988).
                                                                                                                                                                                SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the EB EBUTOPEAN BIOInformatics Institute. There are no results of the content by non-profit institutions as long as its content
                                                                          1DJG;
                                                                                         B28821;
                                                                                                       M20637; AAA41886.
                                                                                                                                                                                                                                                                                                                                                                                                   ENZYMES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chem. 267:6518-6525(1992).
                                                                                                                                                  non-profit institutions as long and this statement is not removed requires a license agreement (See
07-JUL-97.
07-JUL-97.
07-JUL-97.
07-JUL-97.
07-JUL-97.
07-JUL-97.
                                                                                         B28821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APHY (1.9 ANGSTROMS)
PubMed=8521504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Watanabe Y., Ozaki S., Yoshida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ę
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                엵
                                                                                                                                                    (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                133-756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       205-756
                                                                                                                                                                  Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          proteins
                                                                                                                                                                    ру
                                                                                                                                                                                                restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'n
                                                                                                                                                                     and for commercial
                                                                                                                                                                                                                  EMBL
                                                                                                                                                                                                                                Ø
                                                                                                                                                                                                                                                                                                                         FORMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rat brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Koga T.,
                                                                                                                                                                                                                  collaboration
                                                                                                                                                                                                  g
                                                                                                                                                                                   o
```

```
PIPA_DICDI
IID PIPA_
AC Q0218E
AC Q0218E
DT 01-0C1
DT 01-0C1
DT 15-UUD
DT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR00360; CZDOMAIN.
PRINTS; PR00390; PHPHLIPAS;
PRODOM; PD001202; PI_PLC_Y
SMART; SM00239; C2; 1.
SMART; SM00233; PH; 1.
SMART; SM00149; PLCXc; 1.
SMART; SM00149; PLCXc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PDB; 1DJZ; 07-JUL-97.
PDB; 2ISD; 07-JUL-97.
PDB; 1MAI; 08-NOV-96.
PDB; 1QAS; 12-FEB-97.
PDB; 1QAT; 12-FEB-97.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE;
PROSITE;
PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CA_BIND
CA_BIND
DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00387; PI-PLC-Y; 1. Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR001192; PI_PLC.
InterPro; IPR000909; PI_PLC_Xd.
InterPro; IPR001711; PI_PLC_X.
Pfam; PF00036; efhand; 2.
            MEDLINE=92406741; PubMed=1326523;

Purayer A.L., van Haastert P.J.;

"Molecular cloning and expression of a phosphoinositide-specific phospholipase C of Dictyostellum discoideum.";

J. Biol. Chem. 267:18387-18392(1992).

-I- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLGETOL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (LT3).
                                                                                                                                                                                                                                                                                                    01-OCT-1993 (Rel. 27, Created)
01-OCT-1993 (Rel. 27, Last sequence update)
01-OCT-1993 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
(EC 3.1.4.11) (PLC) (Phosphoinositide-specific phospholipa
                                                                                                                                                                                                                                                                                                                                                                                                             Q02158;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE;
                                                                                                                                                                                                                                               Dictyostelium discoideum (Slime mold).
Eukaryota; Mycetozoa; Dictyosteliida;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hydrolase;
                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                   PIPA_DICDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro;
                                                                                                                                                                                                                       NCBI_TaxID=44689;
                                                                                                                                                                                                                                                                                        PIPA OR PLC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            723 NGGCGYVLKP 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; PF00036; efhand; ; PF00168; C2; 1. ; PF00169; PH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NGGCGYVLKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PS50007;
PS50008;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PS00018;
PS50003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IPR000008;
IPR002048;
IPR001849;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PS0001
                                                                                                                                                                                   FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PS50004;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-JUL-97.
07-JUL-97.
08-NOV-96.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lipid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     756 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21
153
189
296
492
630
311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .larity 100.0%;
Conservative
  BY ACTIVATED
                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; EF_HAND; 2.
; PH_DOMAIN; 1.
; C2_DOMAIN_2; 1.
; PIPLC_X_DOMAIN; 1.
; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PHPHLIPASEC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            degradation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C2DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            130
164
200
440
609
720
311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EF-hand.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     85962 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PLC_Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0.8%; Score 10;
100.0%; Pred. No.
    PHOSPHATIDYLINOSITOL-SPECIFIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Xdom.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PH.

EF-HAND 1

EF-HAND 2

DOMAIN X.

DOMAIN Y.

C2 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Transducer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E33F2313AC81E9F9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                     801
                                                                                                                                                                                                                                                 Dictyostelium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 1;
0.2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                     A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Calcium-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 756;
                                                                                                                                                                                                                                                                                                           phospholipase C).
    PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                         SI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

```
PIPA
ID
AC
DT
DT
DT
DE
                                                                                                                             RESULT
                                                                                                                                                                                                                                                  Best Loc
Matches
                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; Provoca

PRINTS; PRO0360; C2DOMALAN,

PRINTS; PRO0390; PHPHLIPASEC.

PRODOM; PD001202; PI_PLC_Y; 1.

SMART; SM00239; C2; 1.

SMART; SM00148; PLCXC; 1.

SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR000008; C2.
InterPro; IPR000008; C2.
InterPro; IPR001048; EF-hand.
InterPro; IPR001192; PI_PLC_Xdc
InterPro; IPR000909; PI_PLC_Xdc
InterPro; IPR001711; PI_PLC_Y.
Pfam. DEDONGES.
                                                                                                                                                                                                                                                                                                                                                      Phosphorylation.

DOMAIN 322

DOMAIN 542

DOMAIN 661

CA_BIND 490

ACT_SITE 337

ACT_SITE 382

MOD_RES 524

MOD_RES 531
            01-JAN-1990 (Rel. 13, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
                                                                                                             DROME
                                                                                           PIPA_DROME
                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00018; EF_HAND; 1.
PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
                                                                                                                                                                               640
                                                                                                                                                                                                              723 NGGCGYVLKP 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     +
-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
                                                                                                                             8
                                                                                                                                                                                                                                                                    TocaT.
                                                                                                                                                                               NGGCGYVLKP 649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              European Bioinformatics Institute. There are no rest by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
SIMILARITY: CONTAINS 1 C2 DOMAIN.
SIMILARITY: CONTAINS 1 EF-HAND CALCIUM-BINDING DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inosito1 4,5-bisphosphate + H(2)0 = D-myo-inosito1 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEVELOPMENTAL STAGE: EXPRESSED AT ALL STAGES; INCREASE EXPRESSION IN THE CULMINATING FRUITING BODY AND DURING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SWISS-PROT entry is copyright. It is produced through a collaboratic een the Swiss Institute of Bioinformatics and the EMBL outstation European Bioinformatics Institute. There are no restrictions on it
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STARVATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              diacylglycerol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PF00388; PI-PLC-X; 1. PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PF00168; C2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P10688;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              M95783; AAA33235.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ENZYMES.
                                                                                                                                                                                                                                                  10;
                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lipid degradation;
                                                                                                                                                                                                                                                                                                                     801
                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A44165.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IT IS UNCERTAIN WHETHER MET-1 IS THE INITIATOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IDJX.
                                                                                                                                                                                                                                                                                                                     Ä
                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PI_PLC_Y; 1
                                                                                                                                                                                                                                                                                                                                                        464
652
765
501
337
382
524
                                                                                                                                                                                                                                                               0.8%;
                                                                                                                                                                                                                                                                                                                     91280 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PI_PLC_Xdom.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PI_PLC_Y.
                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                       C2 DOMAIN.
EF-HAND (POTENTIAL).
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                 Score 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN Y.
                                                                                                                                                                                                                                                                                                                                                   PHOSPHORYLATION PHOSPHORYLATION
                                                                                                                                                                                                                                                                                                                                      (POTENTIAL)
                                                                                       PRT;
                                                                                                                                                                                                                                                                  Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Transducer; Calcium-binding;
                                                                                                                                                                                                                                                                                                                    DB4FA8C829812DD9 CRC64;
                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                 DB 1;
                                                                                                                                                                                                                                                                 .21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STAGES; INCREASE
                                                                                                                                                                                                                                                                                                                                                   (POTENTIAL)
                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                               Length 801;
                                                                                                                                                                                                                                                                                                                                                   PKA AND
                                                                                                                                                                                                                                                                                                                                                   PKG)
                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 collaboration .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                in
                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                no
                                                                                                                                                                                                                                           0;
```

SOFT TO THE TOTAL OF THE TOTAL PROPERTY OF T

밁 δÃ

PIB4_HUMAN ID PIB4_HUMAN RESULT 9

STANDARD;

0;

```
B
                         δÃ
                                                       Matches
                                                                   Query Match
Best Local
                                                                                                              DOMAIN
ACT_SITE
ACT_SITE
SEQUENCE
                                                                                                                                                                                                                             PROSITE;
                                                                                                                                                                                                                                                                                                   PRINTS; PR00390; PHPHLIPASEC ProDom; PD001202; PI_PLC_Y;
                                                                                                                                                                                                                                                                                                                               Pfam; PF00168; C2; 1.
Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                  Hydrolase;
                                                                                                                                                                                                                   PROSITE;
                                                                                                                                                                                                                                                             SMART;
                                                                                                                                                                                                                                                                           SMART;
                                                                                                                                                                                                                                                                                        SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; J03138; AAA28724.1; -. PIR; A31225; A31225.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bloomquist B.T., Shortridge R.D., Schneuwly S., Perdew M.H., Montell C., Steller H., Rubin G., Pak W.L.;
"Isolation of a putative phospholipase C gene of Drosophila, norph, and its role in phototransduction.";
Cell 54:723-733(1988).
                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR000008; C
InterPro; IPR0011192; PI_PLC.
InterPro; IPR000909; PI_PLC_Xdom.
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSP; P10688; 1QAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Ex
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    diacylglycerol.

-i- SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

-i- SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Drosophila melanogaster (Fruit fly).

Eukaryota; Metazoa; Arthropoda; Mandibulata; Pancrustacea; Hexapoda;

Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;

Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.

NCBI_TaxID=7227;
624
                           694 FWNAGCOMV 702
                                                                                                                                                                                      NIWWOO
                                                                                                                                                                                                                                                                                                                                                                                                                                FlyBase; FBgn0004625; norpA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. MEDLINE=88311074; PubMed=2457447;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NORPA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (EC 3.1.4.11) (Phosphoinositide-specific phospholipase C).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
C ENZYMES. NORPA IS INVOLVED IN PHOTOTRANSDUCTION.
CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-
bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate +
FWNAGCQMV
                                                                                                                                                                                                                                                        SM00239; C2; 1.
SM00148; PLCXC; 1.
SM00149; PLCYC; 1.
                                                                   Similarity
                                                                                                                                                                                                        PS50004; C2_DOMAIN_2; 1.
PS50007; PIPLC_X_DOMAIN; 1.
PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                            1095 AA;
                                                                                                                             320
550
673
334
381
                                                      Conservative
632
                                                                                                                                                                                                 degradation; Vision; Transducer
                                                                                                                             469
666
771
334
381
                                                                  0.7%;
                                                                                                            C2 DOMAIN.

BY SIMILARITY.

BY SIMILARITY.

124822 MW; 2D945EF0AC
                                                   Score 9; DB 1; Pred. No. 2.9
0; Mismatches
                                                      0;
                                                                                                                                                                     DOMAIN X.
                                                                                                           2D945EF0ACBE69B3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ormatics...There are no resulting as its content long as its content
                                                                DB 1;
), 2.9;
                                                   0;
                                                                              Length 1095;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TEMBL
                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      outstation
                                                 Gaps
```

```
RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
RA Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
RA Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Clegs S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Clegs S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Clegs S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Clegs S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Clegs S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Hammond S., Harley J.L., Heath P.D., HO S., Holden J.L., Howden P.J.,
RA Hammond S., Harley J.L., Heath P.D., HO S., Holden J.L., Howden P.J.,
RA Hammond S., Harley J.L., Heath P.D., HO S., Holden J.L., Howden P.J.,
RA Lehvaslaiho M.H., Leversha M.A., Lloyd C., Lloyd D.M., Johnson D.,
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA Milne S.A., Mastry D., Moore M.J.E., Mullikin J.C., Mickerson T.,
RA Milne S.A., Mastry D., Moore M.J.E., Mullikin J.C., Nickerson T.,
RA Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Shownkeen R., Sims S.,
RA Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
RA Wilnehead S.L., Whittaker P., Willey D.L., Wallis J.M.,
RA Wilnehead S.L., Whittaker P., Willey D.L., Williams L., Williams S.A.,
RA Minte S.J., Waray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
RA Rogers J.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alvarez R.A., Ghalayini A.J., Xu P., Hardcastle A., Bhattacharya S., Rao P.N., Pettenati M.J., Anderson R.E., Baehr W.; "CDNA sequence and gene locus of the human retinal phosphoinositide-specific phospholipase-C beta 4 (PLCB4)."; Genomics 29:53-61(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q15147; Q9UJQ2; Q9BQW5; Q9BQW6; Q9BQW8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "The DNA sequence and comparative analysis of human chromosome 20."; Nature 414\!:\!865\!-\!871(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. (ISOFORMS 1; 2
MEDLINE-21638749; PubMed-11780052;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16-OCT-2001 (Rel. 40, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta
(EC 3.1.4.11) (PLC-beta-4) (Phospholipase C-beta-4).
                        the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                               This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-96079091; PubMed-8530101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                               ALTERNATIVE PRODUCTS: At least 3 isoforms; 1, 2 (shown here) and 3; are produced by alternative splitcing.
TISSUE SPECIFICITY: PREFERENTIALLY EXPRESSED IN THE RETINA.
SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN FOUR DIFFERENT FORMS
                                                                                                                                                                                                                                                                                                                                                                                                                                    CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
C ENZYMES. THIS FORM HAS A ROLE IN RETINA SIGNAL TRANSDUCTION.
                                                                                                                                                                                                                                  SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                      COFACTOR: Calcium.
                                                                                                                                                                                                                                                          OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
                                                                                                                                                      SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                              lycerol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (ISOFORM 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ω
.
```

```
OR REPORT TO THE PROPERTY OF T
                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 10
PIB4_RAT
    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        · 694 FWNAGCQMV 702
                                                                                                                                                                                                                                                                    Q9QW07; Q9Z0G6; O8B356;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinosicol-4.5-bisphosphate phosphodiesterase beta 4 (EC 3.1.4.11) (PLC-beta-4) (Phospholipase C-beta-4).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VARSPLIC
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR00390; PHPHLIPASEC ProDom; PD001202; PI_PLC_Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR001192;
InterPro; IPR000909;
InterPro; IPR001711;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam;
                                                                               STRAIN-Sprague-Dawley; TISSUE-Brain; MEDLINE-94012687; PubMed-8407970; Lee C.-W., Park D.J., Lee K.-H., Kim C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     [nterPro;
J. Biol. Chem. [2]
                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                           PIB4_RAT
                                                           "Purification, molecular cloning, and sequencing of phospholipase
                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                             Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /ARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             L41349; AAB02027.1; P10688; IDJX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FWNAGCQMV 647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PF00387; PI-PLC-Y; 1. PF00388; PI-PLC-X; 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AL031652; CAA21068.1;
AL023805; CAC34525.1;
AL023805; CAC34527.1;
AL023805; CAC34528.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PF00168; C2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SM00239; C2; 1.
SM00148; PLCXC; 1.
SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HGNC:9059; PLCB4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
9; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               re splicing.
313 463
565 681
788 786
78 328
78 375
153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IPR000008;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lipid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1
447
757
787
787
840
902
1175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                       268:21318-21327(1993)
                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ΑĄ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            degradation;
                                                                                                                                             (ISOFORM A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PI_PLC.
PI_PLC_Xdom.
PI_PLC_Y.
                                                                                                                                                                                                                            Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                134463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ¥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (IN ISOFORM 1).
MISSING (IN ISOFORM 3
A -> P (IN REF. 1).
F -> L (IN REF. 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 9;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BY SIMILARITY.
MISSING (IN ISOFORM 1)
LAFMINTNGKIPUR -> MNNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         L -> P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Transducer; Phosphorylation; Calcium;
                                                                                                                                                                                                                              Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                        Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   L (IN REF.P (IN REF.T (IN REF.P (IN REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AB2C8EB99EF57357 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB
                                                                                 .G., Rhee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1,
                                                                                                                                                                                                        Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MNNNWNVCFFLFCP
                                                                                   s.G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                           Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                             Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
```

```
CONFLICT
                                                                                                            VARSPLIC
VARSPLIC
VARSPLIC
                                                                                                                                                                                                                                                                              PROSITE; PS50004; C2_DOMAIN_2.
PROSITE; PS50007; PIPLC_X_DOM
PROSITE; PS50008; PIPLC_Y_DOM
Hydrolase; Lipid degradation;
                                                                                                                                                                                                                                                                                                                                                        PRINTS: PR00390; PHPHLIPASEC.
ProDom; PD001202; PI PIC_Y; 1
SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                CONFLICT
                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                    Alternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00168; C2; 1.
Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Cloning of cDNA encoding rat phospholipase C-beta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biochim.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the phospholipase C.";
Biochem. Biophys. Res. Commun. 194:706-712(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Adamski F.M., Timms I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 447-1175
TISSUE-Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (ISOFORM B).
STRAIN-Sprague-Dawley; TISSUE-Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cerebellum and eye."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=99132015; PubMed=9931434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=93343926; PubMed=7688223;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALTERNATIVE PRODUCTS: 3 ISOFORMS; A (SHOWN HERE), B PRODUCED BY ALTERNATIVE SPLICING.
TISSUE SPECIFICITY: PREFERENTIALLY EXPRESSED IN THE SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN FOUR DIOF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS MEDIATED BY ACTIVATED PHOSPHATIDYLINGSTFOL-SPECIFIC PHOSPHOLIPASE C ENZYMES. THIS FORM HAS A ROLE IN RETURA SIGNAL TRANSDUCTION. CAPALITIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
diacylglycerol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   chim. Biophys. Acta 1444:55-60(1999).
EUNCTION: THE PRODUCTION OF THE SECOND
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COFACTOR: Calcium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SWISS-PROT entry is copyright. It is produced through a collaboration en the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P10688;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        U57836; AAD10403.1; -. AF031370; AAC98145.1; -. AF027571; AAC24984.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      L15556;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; IPR000008; C2.
; IPR001192; PI_PLC.
; IPR000909; PI_PLC_Xdo
; IPR001711; PI_PLC_Y.
                                                                                                                                                                  splicing.
313 46
565 68
688 78
328 32
375 37
                                                                                                              1013
1023
1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAK13557.1; -.
AAD10403.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1DJX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Timms K.M., Shieh
                                                                                                                                                                                                                                                                                                    C2_DOMAIN_2; 1.
PIPLC_X_DOMAIN; 1.
PIPLC_Y_DOMAIN; 1.
                                                                                                            463
681
786
328
375
1022
1175
              308
417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               phospholipase Cbeta4 highly expressed in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FROM N.A.
C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
VKEIVAQHTK -> GKQRDASPSG (IN ISOFORM B).
MISSING (IN ISOFORM B).
AKEMQQMVKLEAEMDRRPATVV -> LLKSCHAVSQTQGEG
DAADGEIGSRDGFQTSNSSMKLQNAN (IN ISOFORM
C).
L -> M (IN REF. 2).
R -> A (IN REF. 2).
Q -> E (IN REF. 2).
                                                                                                                                                                DOMAIN Y.
DOMAIN Y.
C2 DOMAIN.
BY SIMILAR
BY SIMILAR
                                                                                                                                                                                                                                                                                Transducer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (ISOFORM C)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B.H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SECOND MESSENGER MOLECULES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         There are no restrictions ong as its content is in
                                                                                                                                                                                                                                                                            Phosphorylation; Calcium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Suh P.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ьy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DIFFERENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RETINA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   new member of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             on
```

PRESENTED FOR FREE PROPERTY OF THE PROPERTY OF

```
ACOCO PROPERTIES OF THE PROPER
RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
RA Deloukas P., Matthews L.H., Ashurst J.P., Babbage A.K., Bagguley C.L.,
RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
RA Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.,
RA Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,
RA Hummond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA Marsh V.L., Martin S.L., McConnachie L.J., McLay K., McMurray A.A.,
RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PIG1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Burgess W.H., Dionne C.A., Kaplow J.M., Mudd R., Friesel R., Zilberstein A., Schlessinger J., Jaye M.; "Characterization and cDNA cloning of phospholipase C-gamma, a masubstrate for heparin-binding growth factor 1 (acidic fibroblast growth factor)-activated tyrosine kinase."; Mol. Cell. Biol. 10:4770-4777(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CONFLICT
CONFLICT
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=21638749;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CONFLICT
CONFLICT
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IISSUE=Vein, and Brain;
MEDLINE=90355993; PubMed=2167438;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PLCG1 OR ELLI
Homo sapiens (Human).
Motazoa; Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PLCG1 OR PLC1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-NOV-1990 (Rel. 16, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase gamma (EC 3.1.4.11) (PLC-gamma-1) (Phospholipase C-gamma-1) (PLC-II)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1990 (Rel. 16,
15-JUN-2002 (Rel. 41,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PIG1_HUMAN P19174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-NOV-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            639 FWNAGCOMV 647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         694 FWNAGCOMV 702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      843
852
916
1024
1043
1057
1067
1084
1175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ą,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PubMed=11780052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1024
1043
1057
1067
1084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   134496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  I -> L (IN REF 2).

R -> H (IN REF 2).

L -> M (IN REF 2).

D -> N (IN REF 2).

F -> L (IN REF 2).

F -> L (IN REF 2).

F -> V (IN REF 3).

L -> M (IN REF 3).

L -> M (IN REF 3).

Q -> T (IN REF 3).

L -> M (IN REF 3).

L -> V (IN REF 3).

A -> V (IN REF 3).

A -> V (IN REF 3).

A -> V (IN REF 3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 9;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA (IN REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 K (IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DE (IN REF. 2)
L (IN REF. 2)
1 (IN REF. 3)
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB
. 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            . 2).
1).
2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               major
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
```

0;

```
Pfam; PF00017; SH2; 2.
Pfam; PF0018; SH3; 1.
Pfam; PF0016B; C2; 1.
Pfam; PF00199; PH; 2.
Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00388; PI-PLC-Y; 1.
Pfam; PF00398; PHPHLIPASEC.
PRINTS; PR00401; SH2DOMAIN.
PRINTS; PR00452; SH3DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Shownkeen R., Sims S., Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E., Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A., Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M., Whitehead S.L., Whittaker P., Willey D.L., Williams L., Williams S.A. Whittaker P., Willey D.L., Williams L., Williams S.A. Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=93208890;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRUCTURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "The DNA sequence and comparative analysis of human chromosome 20."; nature 414:865-871(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Solution structure of the SH3 domain of phospholipase C-gamma."; Cell 72:953-960(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Schlessinger J., Inagaki F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kohda D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                       InterPro; IPR000909; PI_PLC_Xdc
InterPro; IPR001711; PI_PLC_Y.
InterPro; IPR000980; SH2.
InterPro; IPR001452; SH3.
                                                                                                                                                                                                                                                                                                                                                       MIM; 172420; -
                                 ProDom;
                                                                                                                                                                                                                                                                                        InterPro;
                                                                                                                                                                                                                                                                                                                        InterPro;
                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                         Genew
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYROSINE KINASE.

CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 4,5-
CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: CONTAINS SIMILARITY: CONTAINS SIMILARITY: CONTAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SYSTEM RECEPTORS.

SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIS
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY
SIMILARITY: CONTAINS 1 C2 DOMAIN.

SIMILARITY: CONTAINS 2 PH DOMAINS. THE SECOND O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PTM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2 INVOLVES THEIR PHOSPHORYLATION BY TYROSINE KINASES IN RESPONSE TO LIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IMMUNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ween the Swiss Institute of Bioinfo
European Bioinformatics Institute
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COFACTOR: Calcium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FUNCTION: PLC-GAMMA IS A MAJOR SUBSTRATE FOR HEPARIN-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PARTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GROWTH FACTOR 1 (ACIDIC FIBROBLAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the EM
                                                                                                                                                                                                                                                                                                                                                                                                                       A36466;
                                                                                                                                                                                                                                                                                                                                                                                       2HSP; 31-AUG-94.
1HSQ; 31-AUG-94.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     M34667; AAA36452.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                      AL022394;
                                                                                                                                                                                                                                                                                                                                                                      HGNC: 9065; PLCG1.
                              PR00452; SH3DOMAIN.
PD000066; SH3; 1.
PD000093; SH2; 2.
PD001202; PI_PLC_Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hatanaka H., Odaka M., Mandiyan V., Ullrich A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BY NMR OF SH3
                                                                                                                                                                                                                                                                                                         IPR001849;
                                                                                                                                                                                                                                                                                                                                         IPR000008; C2.
                                                                                                                                                                                                                                                                                          IPR001192;
                                                                                                                                                                                                                                                                                                                                                                                                                       A36466
                                                                                                                                                                                                                                                                                                                                                                                                                                       CAA18537.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OF SH3 DOMAIN.
PubMed=7681365;
                                                                                                                                                                                                                                                                        PI_PLC.Xdom.
                                                                                                                                                                                                                                                                                                                        EF-hand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 SH2 DOMAINS.
1 SH3 DOMAIN.
1 EF-HAND CALCIUM-BINDING DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GROWTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 There are no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FACTOR) - ACTIVATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DIFFERENT FORMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ONE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     restrictions on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Williams S.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gh a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IN TWO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       collaboration -
```

```
RESULT 12
PIG1_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                 QY
                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS00018; EF_HAND; 1.
PROSITE; PS50001; SH2; 2.
PROSITE; PS50002; SH3; 1.
PROSITE; PS50003; PH_DOMAIN; 2.
PROSITE; PS50004; C2_DOMAIN, 1.
PROSITE; PS50007; PFPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_X_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Repeat;
                                                                                                                                                                                                                                                           01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase gamma (EC 3.1.4.11) (PLC-gamma-1) (Phospholipase C-gamma-1) (PLC-II)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hydrolase;
                                                                                                                                    MEDLINE-88289733; PubMed-2840660;
Suh P.-G., Ryu S.H., Moon K.H., Suh H.W., Rhee S.
"Inositol phospholipid-specific phospholipase C:
                                                                                                                                                                                                                                                                                                                         P10686;
                                                                                                             protein sequences and sequence homology to tyrosine oncogene products.";
                                                                                                                                                                                                                                                                                                                                     PIG1_RAT
                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                             NCBI_TaxID=10116;
                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                               Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                      (PLC-148).
                                                                                                                                                                                                                                                                                                                                                                                             406 EYPVILSIE 414
                                                                                                                                                                                                                                                                                                                                                                                                                   408 EYPVILSIE 416
                          C ENZYMES.

CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 4,5-
Cisphosphate + H(2)0 - D-myo-inositol 1,4,5-trisphosphate +
                                                                 C. Natl. Acad. Sci. U.S.A. 85:5419-5423(1988).
FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
            diacylglycerol
COFACTOR: Calc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SM00252; SH2;
SM00326; SH3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SM00148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SM00149;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Calci
                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
9; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1075
335
380
771
                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             um-binding;
  RECEPTOR-MEDIATED
            Calcium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PLCXc;
                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          degradation; Transducer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           176
464
523
657
756
851
931
1070
1177
335
380
380
771
771
783
1253
                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     148531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Phosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 9; DB 1
b; Pred. No. 3.3
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ¥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PH 2 (SECOND DOMAIN Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PHOSPHORYLATION (BY SIMILARITY).
PHOSPHORYLATION (BY SIMILARITY).
PHOSPHORYLATION (BY SIMILARITY).
I -> T (IN DBSNP:753381).
/FTId-VAR.011908.
W; AE05ABE2A18EDDAC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BY SIMILARITY
BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EF-HAND
                                                                                                                                                                                                         Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rattus
  ACTIVATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                   Suh H.W., Rhee S.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (FIRST PART).
                                                                                                                                                                                                                                                                                                                                        1290 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PART).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3D-structure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SH2 domain; SH3 domain;
   엵
   PLC-GAMMA 1 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1290;
                                                                                                                                         complete cDNA
                                                                                                                             kinase-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Polymorphism.
                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                            0
```

0,

```
PRINTS; PRO0390; PHPHLIPASEC.
PRINTS; PRO0401; SH3DOMAIN.
PRINTS; PRO0452; SH3DOMAIN.
PRODOm; PD000066; SH3; 1.
ProDom; PD000066; SH3; 1.
ProDom; PD0011202; PI_PIC_Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Interpro; IPR000008; C2.
Interpro; IPR002048; EF-hand.
Interpro; IPR001849; PH.
Interpro; IPR001192; PI_PLC.
Interpro; IPR001999; PI_PLC_Xd
Interpro; IPR001711; PI_PLC_Xd
Interpro; IPR000980; SH2.
Interpro; IPR001852; SH3.
                                                                                                                                                                                                                                                        PROSITE; PS50003; I
PROSITE; PS50004; C
PROSITE; PS50007; I
PROSITE; PS50008; I
                                                ACT_SITE
                                                                                                                          DOMAIN
                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam;
Pfam;
Pfam;
                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam;
                    MOD_RES
                                                                                DOMAIN
                                                                                               OMAIN
                                                                                                             DOMAIN
                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                     PROSITE; PS50001;
PROSITE; PS50001;
PROSITE; PS50002;
                                                                                                                                                                                                                                                                                                                                                                 SMART; SM00149; PLCYC;
SMART; SM00252; SH2; 2
SMART; SM00326; SH3; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; JO
PIR; A3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboratio between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no wa modified and this statement is not removed. Usage by and for commercia entities requires a license agreement (See http://www.isb-sib.ch/announce or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                            SMART;
                                                                                                                                                                                                                                                lydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                              SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: CONTAINS 2
SIMILARITY: CONTAINS 1
SIMILARITY: CONTAINS 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY: CONTAINS SIMILARITY: CONTAINS
                                                                                                                                                                                                                                                                                                                                                                                          ; SM00239; C2; 1.
; SM00239; PH; 2.
; SM00233; PH; 2.
;; SM00148; PLCXC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY: CONTAINS 1 C2 DOMAIN. SIMILARITY: CONTAINS 2 PH DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SYSTEM RECEPTORS.

SIMILARITY: DOMAINS X AND Y ARE CONSERVED OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACT SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PARTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INVOLVES THEIR PHOSPHORYLATION BY TYROSINE KINASES IN RESPONSE TO LIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IMMUNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P08487; 2pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PF00388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PF00387;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PF00168;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PF00018;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           J03806; AAA41921.1; -.
\31317; A31317.
                                                                                                                                                                                                                                  Calci
                                                                                                                                                                                                                                                Lipid
                                                                                            165
165
489
550
668
791
953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; SH2; 2
; SH3; 1
; C2; 1.
PH; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PI-PLC-Y; 1. PI-PLC-X; 1.
                                                                                                                                                                                                                               -binding;
                                                                                                                                                                                                                                                         SH2; 2.
SH3; 1.
SH_DOMAIN; 2.
C2_DOMAIN, 2; 1.
PIPLC_X_DOMAIN; 1.
PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                           degradation; Transducer;
    464
523
657
756
851
931
1070
1177
335
380
771
771
783
                                                                                                                                                                                                                                                                                                                                                EF_HAND; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PI_PLC_Xdom.
PI_PLC_Y.
                                                                                                                                                                                                                             Phosphorylation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SH2 DOMAINS.
SH3 DOMAIN.
EF-HAND CALCIUM-BINDING
   PHOSPHORYLATION PHOSPHORYLATION PHOSPHORYLATION
                                             DOMAIN Y.
C2 DOMAIN
BY SIMILA
BY SIMILA
                                                                                                                       SH2
SH2
SH3
                                                                                                                                                                                               EF-HAND (POTENTIAL)
                                             SIMILARITY.
                                                                            DOMAIN
                                                                                                         (SECOND PART)
                                                                                                                                                                   (FIRST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              THE SECOND ONE
                                                                                                                                                                                                                                           SH2 domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTIVITY
 (BY
(BY
(BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IN DIFFERENT FORMS
Y SIMILARITY).
Y SIMILARITY).
Y SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                           SH3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            \mathbf{S}
                                                                                                                                                                                                                                        domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          commercia]
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                    peptide.";
Cell 77:461-472(1994).
Cell 77:E0000 THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3)
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOL
                                                                                                                                             STRUCTURE BY NMR OF 663-759.
MEDLINE=94236690; Pubmed-8181064;
Pascal S.M., Singer A.U., Gish G., Yan
Pawson T., Kay L.E., Forman Kay J.D.;
                      -
                                                                                                              "Nuclear magnetic resonance structure of an SH2 phospholipase C-gamma 1 complexed with a high at
                                                                                                                                                                                                                  PLC-gamma 1 phosphorylation Cell 65:435-441(1991).
                                                                                                                                                                                                                                                          Kim H.K., Kim J.W., Zilberstein A., Schlessinger J., Rhee S.G.;
                                                                                                                                                                                                                                                                                                                                                   MEDLINE=90154081; PubMed=1689311; Whal M.I., Nishibe S., Kim J.W., Kim H.K., Rhee S.G., Car "Identification of two epidermal growth factor-sensitive phosphorylation sites of phospholipase C-gamma in intact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
MEDILINE-88156963; Pubmed-2831461;
Stahl M.L., Ferenz C.R., Kelleher K.L., Kriz R.W., Knopf J.L.;
"Sequence similarity of phospholipase C with the non-catalytic region of src.";
                                                                                                                                                                                                                           "PDGF stimulation of inositol phospholipid hydrolysis requires PTG-gamma 1 phosphorylation on tyrosine residues 783 and 1254.";
                                                                                                                                                                                                                                                                                                                                                cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PIG1_BOVIN STANDARD; PRT; 1291 AA. P08487;
01-AUG-1988 (Rel. 08, Created)
01-AUG-1988 (Rel. 08, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosp)
(EC 3.1.4.11) (PLC-gamma-1) / Phosphatic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BOVIN
                                                                                                                                                                                                                                                                                       MEDLINE=91208680;
                                                                                                                                                                                                                                                                                                   PHOSPHORYLATION SITES
                                                                                                                                                                                                                                                                                                                                                                                                              PHOSPHORYLATION SITES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Tyrosine residues in bovine phospholipase C-gamma the epidermal growth factor receptor in vitro.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=90154080; PubMed=1689310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kim J.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PHOSPHORYLATION SITES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nature 332:269-272(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PLC-148).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         408 EYPVILSIE 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         406 EYPVILSIE 414
                                                                                                                                                                                                                                                                                                                             Biol. Chem. 265:3944-3948(1990).
                 CATALYTIC ACTIVITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                             Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
       bisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .4.11) (PLC-gamma-1) (Phospholipase C-gamma-1) (PLC-II)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
9; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                          Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sim S.S., Kim U.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1290 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                          265:3940-3943(1990).
                                                                                                                                                                                                                                                                                       PubMed=1708307;
     H(2)0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    148547 MW;
1-phosphatidy1-1D-myo-inositol 4,5-
0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 9;
; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nishibe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BB3240C27972CE3B CRC64;
                                                                                                                                                           Yamazaki
                                                                                                                                                                                                                                                                    Margolis B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S., Whal M.I., Carpenter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 1;
5. 3.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            phosphodiesterase gamma 1
                                                                                                                                                       Τ.,
                                                                                                               H2 domain of affinity binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1290;
                                                                                                                              domain
                                                                                                                                                        Shoelson S.E.,
                                                                                                                                                                                                                                                                                                                                n intact HSC-1
                                                                                                                                                                                                                                                                     Kim J.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                            PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G.,
                                                         SI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ϋ́q
```

```
PRINTS; PR00390; PHPHLIPASEC.
PRINTS; PR00401; SH2DOMAIN.
PRINTS; PR00402; SH3DOMAIN.
PRODOM; PD000066; SH3; 1.
ProDom; PD000093; SH2; 2.
ProDom; PD001202; PI_PLC_Y; 1.
                                                                                                                                                                                                                                                       SMART; SM00239; C2; 1.
SMART; SM00233; PH; 2.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
SMART; SM00252; SH2; 2.
SMART; SM00326; SH3; 1.
                                                                            CA_BIND
DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                             PROSITE;
PROSITE;
PROSITE;
                                                                                                                                                                                                                  PROSITE;
  DOMAIN
ACT_SITE
                                                   DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                             Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <del>+</del> <del>+</del> <del>+</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the European Bioinformatics Institute.
                          DOMAIN
                                          DOMAIN
                                                                                                                             DOMAIN
                                                                                                                                                     PROSITE; PS50008;
Hydrolase; Lipid d
                                                                                                                                                                                                                                             PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          diacylglycerol.

COPACTOR: Calcium.

PIM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2

PIM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2

INVOLVES THEIR PHOSPHORVLATION BY TYROSINE KINASES IN RESPONSE
TO LIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IMMUNE
SYSTEM RECEPTORS.

SYSTEM RECEPTORS.

SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.

SIMILARITY: CONTAINS 2 PH DOMAINS. THE SECOND ONE IS IN TWO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: CONTAINS 2 SH2 DOMAINS.
SIMILARITY: CONTAINS 1 SH3 DOMAIN.
SIMILARITY: CONTAINS 1 EF-HAND CALCIUM-BINDING DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; PF00017; SH2;
; PF00018; SH3;
; PF00168; C2; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S00666;
                                                                                                                                                                                                                                                                                                                                                                                                             PF00387; PI-PLC-Y; 1. PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                        PF00169;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Y00301; CAA68406.1; -.
                                                                                                                                                                 E; PS50001; SH2; 2.
E; PS50002; SH3; 1.
E; PS50002; SH3; 1.
E; PS50004; C2_DOMAIN; 2.
E; PS50004; C2_DOMAIN_2; 1.
E; PS50007; PIFLC_X_DOMAIN; 1.
E; PS50008; PIFLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    j IPR000008; C2.
j IPR002048; EF-hand.
j IPR001849; PH.
j IPR001192; PI_PLC_X
j IPR001999; PI_PLC_X
j IPR001711; PI_PLC_Y.
j IPR001711; PI_PLC_Y.
j IPR001452; SH3.
  895
953
1075
335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6-JAN-95.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S00666
  n-binding;
7 1142
7 176
1464
523
657
857
851
1931
1177
335
                                                                                                                                                     degradation; Transducer;
                                                                                                                                                                                                                                             EF_HAND; 1.
                                                                                                                                                                                                                                                                                               CXc; 1.
                                                                                                                            Phosphorylation;
PH 1.
EF-HAND (POTENTIAL).
DOMAIN X.
PH 2 (FIRST PART).
SH2 1.
SH2 2.
SH3 2.
SH3 (SECOND PART).
DOMAIN Y.
C2 DOMAIN Y.
C2 DOMAINY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        There are no restrictions
                                                                                                                                         SH2 domain; S
3D-structure.
                                                                                                                                                       SH3 domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ဓ္ဓ
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OS
LA
LA
LA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACT_SITE
MOD_RES
MOD_RES
MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DPOZ_MOUSE
Q61493; Q9C
                                                                                                                                use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entitles requires a license agreement (7--)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN-129/Ola; TISSUE-Testis; MEDILINE-99202265; PLOMMed-10102037; WILLINE-99202265; PLOMMed-10102037; Van Sloun P.P.H., Romein R.J., Eeken J.C.J.; Van Sloun P.P.H., Parents Revision and chromosomal localisation of mouse Rev3l gene, encoding the catalytic subunit of polymerase Mutat. Res. 433:109-116(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOUSE
                          EMBL; D78644; BAA11461.1; ... MGD; MGI:1337131; Rev31. InterPro; IPR002664; DNA_pol_B. InterPro; IPR004578; Pol2.
                                                                   EMBL; AF083464; AAC98785.1; -. EMBL; AB031049; BAA90768.1; -. EMBL; D78644; BAA11461.1; -.
                                                                                                                                                                                                                                                                                          differential screening.";
Biochem. Biophys. Res. Commun. 219:795-799
-I- CATALYTIC ACTIVITY: N deoxynucleoside
                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=C57BL/6J; TISSUE-Embryonic MEDLINE=96216731; PubMed-8645260;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-MAY-2000 (Rel. 39, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
DNA polymerase zeta catalytic subunit (EC 2.7.7.7) (Seizure related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                            or send an email to license@isb-sib.ch).
                                                                                                                                                                                                       between
                                                                                                                                                                                                                                                                                                                                                                   Kajiwara K., Nagawawa H., Shimizu~Nishikawa K.,
                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 2368-3122 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           brain neurons
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Molecular analyses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kajiwara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REV3L OR POLZ OR SEZ4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   408 EYPVILSIE 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           406 EYPVILSIE
                                                                                                                                                                                                                                                                                                                                      Molecular characterization of seizure-related genes
                                                                                                                                                                                     s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                SUBCELLULAR LOCATION: Nuclear (Potential).
SIMILARITY: BELONGS TO THE DNA POLYMERASE TYPE-B FAMILY.
                                                                                                                                                                                                                                                                               (DNA)(N).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q9QWX6; Q9JMD6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AA;
                                                                                                                                                                                                                                                                                                                                                                                               TISSUE-Embryonic brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1254
                                                                                                                                             tatement is not removed. Usage by and for license agreement (See http://www.isb-sib.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of Sez4 encoding murine homologue of yeast REV3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              148312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₩;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 9; 1
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PHOSPHORYLATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PHOSPHORYLATION.
PHOSPHORYLATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                            219:795-799(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9F31C7DAA3F8EA77 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3122 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1;
                                                                                                                                                                                                                                                                                           triphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1291;
                                                                                                                                                                                                                                                                                                                                                                   Ookura T., Kimura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                        isolated

    N diphosphate

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                          for commercial
                                                                                                                                                                                                                                                                                                                                        ķ
                                                                                                                                              .ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 zeta.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                   X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
```

PF00136; PF03104;

DNA_pol_B; 2.
DNA_pol_B_exo;

```
LPSB_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CONFLICT
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lytechinus pictus (Painted sea urchin).
Eukaryota; Metazoa; Echinodermata; Eleutherozoa; Echinozoa;
Echinoidea; Euechinoidea; Echinacea; Temnopleuroida; Toxopn
                       EMBL; M62848;
HSSP; P02593;
                                                                                     or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Xiang M., Ge T., Tomlinson C.R., Klein W.H.;

"Structure and promoter activity of the LpS1 genes of Lytechinus pictus. Duplicated exons account for LpS1 proteins with eight calcium binding domains.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=91244831; PubMed=2037596;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Calcium-binding protein LPS1-beta (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-FEB-1995 (Rel. 31, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LPSB_LYTPI
Q03975;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LYTPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TIGREAMS; TIGR00592; pol2; 1
PROSITE; PS00116; DNA_POLYMERASE_
Transferase; DNA-directed DNA pol
nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CBI_TaxID=7653;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ISSUE-Sperm;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ytechinus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100 SSPDSPGIP 1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
nes 9; Conserv
                                                                                                                                                                                                                                                                                                                                                    BIOL. Chem. 266:10524-10533(1991).

FUNCTION: CALCIUM-BINDING PROTEIN INVOLVED IN LARVAL DEVELOPMENT AND METAMORPHOSIS. LIKELY TO FUNCTION AS CALCIUM BUFFERS MEDIATING THE TRANSPORT OF CALCIUM FROM THE SEA WATER TO THE BLASTOCOSL WHERE CALCIUM IS REQUIRED FOR SKELETON FORMATION.

TISSUE SPECIFICITY: ABORAL ECTODERM, A SQUAMOUS EPITHELIUM COVERING THE SURFACE OF THE LATE STACE EMBRYO AND LARVA.
                                                                                                                                                                                                                                                                     SIMILARITY: TO OTHER EF-HAND CALCIUM BINDING PROTEINS, MORE SPECIFICALLY TO SPECS.
                                                                                                                                                                                                                                                                                                                 ECTODERM CELLS.
                                                                                                                                                                                                                                                                                                                                      DEVELOPMENTAL STAGE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SM00486;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PR00106;
  IPR002048; EF-hand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   se; DNA-directed DNA polymerase; DNA replication;

ng; DNA repair; Nuclear protein; 2inc-finger.

3034 3049 C4-TYPE (POTENTIAL).

3078 3096 C4-TYPE (POTENTIAL).

92 92 92 93 -> A (IN REF. 2).

294 294 A -> T (IN REF. 2).

578 578 E -> Q (IN REF. 2).

578 578 E -> Q (IN REF. 2).

1298 1298 L -> F (IN REF. 2).

1298 1298 L -> F (IN REF. 2).

1416 1416 P -> L (IN REF. 2).

1416 1416 P -> L (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3034
3078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0.7%;
ilarity 100.0%;
Conservative
                         1CMG.
                                           AAA30004.1; ALT_SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POLBc; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNAPOLB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        294
578
609
1278
1298
1416
1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            350654
                                                                                                                                                                                                                                                                                                                                    ACTIVATED EARLY IN DEVELOPMENT IN ABORAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 9;
Pred. No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A39846CAF7365BA8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Temnopleuroida; Toxopneustidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 3122;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
```

PF00036;

```
밁
            QΨ
                                                   Query Match
Best Local
                         Matches
                                                        CA_BIND
NON_TER
                                                                          CA_BIND
                                                                                       CA_BIND
                                                  SEQUENCE
                                                                     CA_BIND
                                                                                                                 PROSITE; PS00018 Calcium-binding;
                                                                                                                           ProDom; PD000012; EF-hand; SMART; SM00054; EFh; 5.
                                                                                                    REPEAT
                                                                                                          REPEAT
            178 DKNGDGSL 185
167 DKNGDGSL 174
                               Local
                               Similarity
                                                                                                                     PS00018;
                                                 243 AA;
                                                        29
60
98
134
167
204
243
                         Conservative
                                                                                                        Repeat.
150
                                                                                                                      EF_HAND;
                                                                          40
71
109
145
                                                  27504 MW;
                             0.7%; Score 8;
100.0%; Pred. No.
                                                                                                                                  ω
·
                                                                                                                       <u>ه</u>
                         0,
                                                             EF - HAND
EF - HAND
EF - HAND
EF - HAND
EF - HAND
                                                  505B2BBD70F7ED62 CRC64;
                        Mismatches
                                                              o α ~ ω ю ⊢
                             DB 1;
5. 7.6;
                                   Length 243;
                        0; Indels
                       0
                       Gaps
```

0

Search completed: March 28, 2003, 14:02:59 Job time: 35 secs

멍 Š

```
OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Word size :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Run on:
                                                                                                                                                                                                                                   Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
                                                                                                                                                                                                                        No.
                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                     Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SPTREMBL_21:*
1: sp_archea:*
2: sp_bacteria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OLIGO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-927-112-2
1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              March 28, 2003, 13:59:00; Search time 112 Seconds (without alignments) 2220.526 Million cell updates/sec
                                                                                                                                                                                                                     Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            671580 seqs, 206047115 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MAPPTAGPLPGPALPPEDPG.....ALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                         10:
11:
12:
13:
14:
15:
16:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sp_archea:*
sp_bacteria:*
sp_fungi:*
                                                                                                                                                                                                                                                                                                                                       sp_rvirus:*
sp_bacteriap:*
sp_archeap:*
                                                                                                                                                                                                                                                                                                                                                                                                                                               sp_organelle:*
sp_phage:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sp_mhc:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sp_human:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sp_mammal:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sp_invertebrate:*
                                                                                                                                                                                                                                                                                                                                                                                                       sp_rodent:*
sp_virus:*
                                                                                                                                                                                                                                                                                                                                                                                                                              sp_plant:*
                                                                                                                                                                                                                                                                                                                                                                              sp_vertebrate:*
sp_unclassified:*
                                                                                                                                                                                                                      Length
DB
                        Q9BRC7
Q8SPR7
Q97035
1 089040
3 Q92137
3 Q91086
P78708
                                                                                                                 Q9UPT3
1 Q9CUC1
Q9H8H5
Q97037
                                                                                                                                                                 Q8TEH5
Q8WUS6
Q9H9U2
                                                                                                                                                                                                                        IJ
                                                                                                                                                                                                                                                             SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            671580
                     Ogècuci mus musculu
OghRh5 homo sapien
Og7037 hydra magni
Ogbrc7 homo sapien
Ogbrc7 sus scrofa
Og7035 hydra magni
Og9040 rattus norv
Og2137 xenopus lae
Og1086 meleagris g
P78708 neurospora
                                                                                                                                                      Q8teh5 homo sapien
Q8wus6 homo sapien
Q9h9u2 homo sapien
Q9upt3 homo sapien
                                                                                                                                                                                                                        Description
```

111 0.9 1103 4 O9UHV3 O991N3 homo sapien 11 0.9 1355 5 O97033 O990212 homo sapien 29911 0.9 1895 5 O9TV12 O99112 caenorhabdi 11 0.9 1895 5 O9TV12 O99112 caenorhabdi 11 0.9 1894 4 O99112 O99112 caenorhabdi 11 0.9 1894 4 O99112 O99112 Caenorhabdi 11 0.9 2281 11 O99184 O99112 O99112 caenorhabdi 11 0.9 2303 4 O99112 O99112 O99112 Caenorhabdi 11 0.9 2303 4 O99112 O99111 O99112 O9911					
1103 4 09UHV3 1355 5 097033 099033 o99033 ephydatia 1609 4 09P212 09P122 09P121 2 caenorhabt 1895 5 09TV12 09P122 09P121 caenorhabt 1894 4 09HC53 09HC53 homo sapid 1994 4 09HC53 09HC53 homo sapid 2281 11 099P84 09HC53 homo sapid 2381 11 09P184 09HC53 homo sapid 256 11 09ABBH 09HC54 09BH mus musc 756 11 09ABBH 09HC54 09BH mus musc 756 11 06263 062711 rattus n 757 11 062688 017232 caenorhabt 1096 11 062688 095174 095164 macaca fail 1096 11 094950 095149 095149 macaca fail 1096 10 049950 099166 thermopli 505 5 097337 049950 096161 homo sapid 613 4 096F16 096516 homo sapid 613 4 096F16 096516 homo sapid 613 4 096F16 095149 095149 096101 trypanosou 725 5 097137 09121 09121 1eishmani 779 4 08FEC1 homo sapid 788 4 2 09X2W8 rhodospir 1010 13 09YHU7 099hu7 xenopus			000000	00000	0000000
4 Q9UHV3 4 Q9UHV3 5 Q9TV12 2 Q9TV13 3 Q9PB4 4 Q9HC53 4 Q9HBX6 4 Q9HBX6 4 Q9HBX6 4 Q9HBX6 11 Q9ZB4 11 Q9ZB4 11 Q9ZB4 11 Q9ZB4 11 Q9ZB4 11 Q9ZB4 11 Q6268 11 Q6268 11 Q62688 2 Q9XWB7 4 Q15111 11 Q62688 2 Q9XWB7 4 Q15111 11 Q62688 2 Q9XB7 10 Q94950 4 Q95149 2 Q95149 3 Q6516 homo sapi 10 Q62711 2 Q91166 4 Q95149 3 Q6516 homo sapi 10 Q62713 11 Q62713 11 Q62713 11 Q62713 11 Q92714 2 Q95146 3 Q6516 homo sapi 3 Q95149 4 Q95161 homo sapi 4 Q95161 4 Q96161 homo sapi 5 Q972N8 5 Q972N8 6 Q972N8 6 Q972N8 6 Q972N8 13 Q9YHU7 6 Q9YHU7	779 789 884 1010	596 613 673 725 757	896 997 1096 118 427 505	756 756 756 771 771 895	1103 1355 1609 1895 1898 1994
Oguhv3 homo sapido og7033 ephydatia og9212 homo sapido og92124 mus muscu og22124 mus muscu og22124 mus muscu og63633 rattus nu og62711 rattus nu og62711 rattus nu og62712 caenorhabi og92124 macaca fai og9166 thermopil og9137 paracentra og9137 paracentra og9514 homo sapido og92121 trypanosou og9218 trypanosou og9218 trypanosou og92121 leishmani og922w8 rhodospir og9514 porosapido og922w8 rhodospir og9514 rhomo sapido og922w8 rhodospir og95147 xenopus	12 4 5 4	400004	5 L 6 L 7 C 7 C 7 C 7 C 7 C 7 C 7 C 7 C 7 C 7	51111	404004
ephydatia homo sapii ephydatia homo sapii caemorhabo caemorhabo homo sapii 4 rattus n homo sapii 4 mus musci 3 rattus n 1	29U121 28TEC1 28X2W8 29X2W8	049950 296FL6 295LH9 295LH9 295101 297ZN8 29TZN8	29XWB/ 215111 262688 295JV4 295JV4 09HL66	Q9Z1B4 Q9Z1B4 Q8R3B1 Q63693 Q62711 Q62711	290HV3 297033 299212 29TV12 29TVL2 29TVL2 29HC53 299P84
ephydatia homo sapii ephydatia homo sapii caemorhabo caemorhabo homo sapii 4 rattus n homo sapii 4 mus musci 3 rattus n 1					
ephydatia homo sapii ephydatia homo sapii caemorhabo caemorhabo homo sapii 4 rattus n homo sapii 4 mus musci 3 rattus n 1					
	leishmani homo sapi rhodospir 7 xenopus	3 d d 0 3 ⁰ 1	ສິສິສາວ	4 mus 1 mus 3 ratt 1 ratt	homo sap ephydati homo sap caenorha caenorha homo sap 4 rattus

ALIGNMENTS

Db	Qy	ф	Qy	Ф	Qy	Ma Ma	SO	FT	į R	RT	RT	RA	Z :	R 7.	Q X	8	8	SO	GN	DE	D !	J !	Ş	3 5	QBTEH5	RESULT
126 IYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMC 185	677 IYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMC 736	66 KLSRALSDLYKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSR 125	617 KLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRENQQQLSR 676	6 ESGEDAGASRRNGRLYVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTM 65	557 ESGEDAGASRRNGRLYVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTM 616	Query Match 45.6%; Score 550; DB 4; Length 656; Best Local Similarity 99.8%; Pred. No. 0; Matches 650; Conservative 0; Mismatches 1; Indels 0; Gaps	SEQUENCE 656 AA; 70138 MW; 1E65D386AB07F1DA CRC64;	-	Submitted (JAN-2002) to the EMBL/GenBank/UDBJ databases.	spleen.";	clone isol	Jikuya H., Takano J., Nomura N., Kikuno R., Nagase T., Ohara O.;	TISSHERSPLERS	SECTIFICE PROM N.A.	NCBI_TaxID=9606;	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	hordata; Craniata; Vertebrata; E	Homo sapiens (Human).	FLJ00222.	otein (Fragment).	(TrEMBLrel. 21, Last	(TrEMBI.re) 21.	-2002 (TrEMBLrel.	COLUMN FAULULIANT FALL COLUMN.	OMENS DEET THINNEY. DOWN ASK	TT 1

0

Q9JKM2 Q9H9X8

Q9jkm2 mus musculu Q9h9x8 homo sapien

```
뫄
                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ₽
                                                                         Query Match
Best Local
                                                             Matches
                                                                                                                                                                                                                                                                              Strausberg R.;
Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases
EMBL; BC019679; AAH19679.1; -.
                                                                                                                                                                                       ProDom; PD001202; PI_PLC_Y; 1.
SMART; SM00239; C2; 1.
                                                                                                                                                                                                                Pfam; PF00168; C2; 1.
Pfam; PF00387; PI-PLC-Y; 1.
PRINTS; PR00360; C2DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1037
                                                                                                                                                         PROSITE; PS50004; C2_DOMAIN_2; 1.
                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                     Hypothetical 75.7 kDa protein (Fragment).
Homo sapiens (Human).
                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                         InterPro; IPR000008; C2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q8WUS6;
                                 697
                                                                                                                                  ON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q8WUS6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1157
                                                                                                                                             ypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                             CBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             737
                                                                                                                                                                                                                                                                                                                                    SSUE=BRAIN;
      _
               AGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQL 756
AGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQL 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VVLPHAPGMAGPGSPAAASAWTVSPRVLVLVALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VVLPHAPGMAGPGSPAAASAWTVSPRVLVLVALYPWHCLRGTLLPWLACGP 656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SDSSSPDSPGIPERSPRWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPC 1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PSPGPASRQAAIRQQPRARADSLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMS 1096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GSGSPRGKAPAAVAEKSPVRVRPLRVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERP 485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GSGSPRGKAPAAVAEKSPVRVRPPRVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERP 1036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SDSSSPDSPGIPERSPRWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PSPGPASRQAAIRQQPRARADSLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      V$QRILRRTASAPTK$QKPGRRGFPELVLGTRDTGSXGVADDVVPPPGPGPAPEAPAQEGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VSQRILRTTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGP 425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SREQTRYVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SREQTRVVDDNGFNPTWEETLVEMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDC
                                                                         Similarity
                                                                                                                716 AA; 75724 MW; 148244B142852AB0 CRC64;
                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                        23.7%;
100.0%;
                                                          0;
                                                                     Score 286; DB 4; Length; Pred. No. 5.2e-292;
                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; Euteleostomi;
                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A
                                                                                                                                                                                                                                                                                                                                                                                                                                               update)
                                                         Indels
                                                      0
                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         796
                                                      0;
```

ئه

```
RESULT 4
Q9UPT3
                GN DT DT
                                                                                                                                                                     밁
                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                          Matches
Q9UPT3 PRELIMINAKI; Q9UPT3, PRELIMINAKI; Q9UPT3; Q9UPT3, Q9UPT3; 01-MAY-2000 (TrEMBLrel. 13, Created) Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update) Q1-JUN-2002 (TrEMBLrel. 21, Last annotation update) KIAA1069 protein (Fragment).
                                                                                                                                                                                                                                                                           PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
SEQUENCE 466 AA; 52711 MW; 070CI
                                                                                                                                                                                                                                                                                                                                                                                                                               "NEDO human cDNA sequencing project.";
Submitted (AUG-2000) to the EMBL/GenBank/DDBJ
EMBL; AKO25610; ABB14129.1; -
HSSP; P10688; IDJH.
InterPro; IPR000008; C2.
                                                                                                                                                                                                                                                                                                                    PRINTS; PR00390; PHPHLIPASEC.
ProDom; PD001202; PI_PIC_Y; 1
SMART; SM00239; C2; 1.
SMART; SM00149; PICYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
CDNA FL/12548 fis, clone NTZRM4000657, weakly similar to
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
(EC 3.1.4.11).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ISEQUENCE FROM N.A.

ISOGAL T., Ota T., Hayashi K., Sugiyama T., Otsuki T., Suzuki Y., Nishikawa T., Nagal K., Sugano S., Ishibashi T., Fujimori K., Tanai H., Kimata M., Watanabe M., Hiraoka S., Ishii S., Rawai Y., Saito K., Yamanoto J., Wakamatsu A., Nakamura Y., Nagahari K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00168; C2; 1.
Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR001192;
InterPro; IPR001711;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             09н9и2
                                                                                                                                                                                821 VHMPEIALVRFLVWDHDPIGRDF 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Masuho Y., Kanehori K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09н9и2;
                                                                                                                                                                     251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              757
                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                 VHMPEIALVRFLVWDHDPIGRDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RRGFPELVLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGPGSGSPR 982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RRGFPELVLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGPGSGSPR 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEET
                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                      PI_PLC.
                                                                                                                                                                                                                                      100.0%;
                                                                                                                                                                                                                                                      1.9%;
                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                      Score 23; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                               070CD43363C772ED CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          466 AA
                                                                                                                                                                                                                                                  DB 4;
                                                                                                                                                                                                                                      8e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       delta 1
                                                                                                                                                                                                                       0,
                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                     0;
```

```
SQUE DE RESTRES DE RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Adult male testis cDNA, RIKEN full-length enriched clone:4933427D11, full insert sequence (Fragment).
           Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y., Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S., Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I., Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R., Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T., Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H., Kuehl P., Lewis S., Matsuc Y., Nikaido I., Pesole G., Quackenbush Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G., Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F., Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M., Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN;
PROSITE; PS50008; PIPLC_Y_DOMAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS; PR00360; C2DOMAIN.
PRINTS; PR00390; PHPHLIPASEC.
ProDom; PD001202; PI_PLC_Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kikuno R., Nagase T., Ishikawa K., Hirosawa M., Miyajima N., Tanaka A., Kotani H., Nomura N., Ohara O.;
"Prediction of the coding sequences of unidentified human genes. XIV. The complete sequences of 100 new cDNA clones from brain which code
                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. STRAIN-C57BL/6J; TMEDLINE=21085660;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9CUC1 .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AB028992; BAA83021.1; -. HSSP; P10688; 1DJH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9CUC1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-99397452; PubMed-10470851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            821 VHMPEIALVRFLVWDHDPIGRDF 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     584 VHMPEIALVRFLVWDHDPIGRDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 large proteins in vitro.";
Res. 6:197-205(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PF00387;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SM00239; C2; 1.
SM00148; PLCXC; 1.
SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IPR000008; C2.
IPR001192; PI_PLC.
IPR000909; PI_PLC_Xdom.
IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           787 AA; 89169 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PI-PLC-X; 1.
PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                   TISSUE-TESTIS; pubMed=11217851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 23;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2EFC0355E4CDFC8D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.3e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 787;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    library,
1 M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                            Ţ.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
```

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RARRA 
A TO DATE OF THE PROPERTY OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9H8H5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF00169; PH; 1.
Pfam; PF00388; PI-PLC-X; 1.
PRINTS; PR00390; PHPHLIPASEC.
SMART; SM00054; EEh; 3.
SMART; SM00233; PH; 1.
SMART; SM00148; PLCXC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NON_TER
SEQUENCE
                     Pfam; PF00387; PI-PLC-Y; 1.
PRINTS; PR00390; PHPHLIPASEC.
ProDom; PD001202; PI_PLC_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9H8H5 PRELIMINARY; PRT; 639 AA.
Q9H8H5;
Q9H8H5;
Q9H8H5;
Q9H8H5;
Q9H8H5;
Q1+MAR-2001 (TrEMBLrel. 16, Created)
Q1-MAR-2001 (TrEMBLrel. 16, Last sequence update)
Q1-MAR-2002 (TrEMBLrel. 21, Last annotation update)
Q1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
CDNA FLJ13627 fis, clone PLACE1011046, highly similar to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
NON_TER 447 447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR001849; PH.
InterPro; IPR001192; PI_PLC.
InterPro; IPR000909; PI_PLC_Xdom.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P., Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N., Storch K.-F., Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F., Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Isogai T., Ota T., Hayashi K., Sugiyama T., Otsuki T., Suzuki Y., Nishikawa T., Nagai K., Sugano S., Takahashi-Fujii A., Hara H., Tanase T., Nomura Y., Togiya S., Komai F., Hara R., Takeuchi K., Arita M., Nabekura T., Ishii S., Kawai Y., Saito K., Yamamoto J., Wakamatsu A., Nakamura Y., Nagahari K., Masuho Y., Oshima A.; "NEDO human CDNA sequencing project."; Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00036; efhand;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AK016945; BAB30513.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nature 409:685-690(2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (AUG-2000) to the EMBL; AK023689; BAB14641.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta (EC 3.1.4.11) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Functional annotation of a full-length mouse cDNA collection.";
                                                                                                                                                                                                                                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                 InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=PLACENTA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       335 SSHNTYLVGDQL 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SSHNTYLVGDQL 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P10688;
                                                                                                                                                                                     PF00168; C2; 1.
PF00388; PI-PLC-X; 1.
PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P10688; 1DJX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                l Similarity
12; Conserv
        PS50004; C2_DOMAIN_2; 1
                                                                                                                                                                                                                                                                                                                      IPR001192; PI_PLC.
IPR000909; PI_PLC_xdom.
IPR001711; PI_PLC_x.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                447
447 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IPR002048; EF-hand
                                                                                                                                                                                                                                                                                                                                                                                                                                                   IPR000008; C2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    51990 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.0%; Score 12;
100.0%; Pred. No.
tive 0; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7B81156D3D0CFA1C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 11; Length 447; 0.0031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Euteleostomi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
```

Mammalia;

```
ACCOMPAND DRAFT OF THE PROPERTY OF THE PROPERT
                                                                                                                                                                                                                                                                                                                                                                         20
                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
097037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DR
FT
SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Phospholipase C cDNAs from sponge and hydra: Antiquity of involved in the inositol phospholipid signaling pathway."; Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases. EMBL; ABO17513; BAA76278.1; -. HSSP; P10688; 1QAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          O97037 PRELIMINARY; PRT; 738 AA.
O97037;
O1-MAY-1999 (TERMBLrel. 10, Created)
O1-MAY-1999 (TERMBLrel. 10, Last sequence update)
O1-JUN-2002 (TERMBLrel. 21, Last annotation update)
PLC-deltaH.
Hydra magnipapillata (Hydra).
Eukaryota; Metazoa; Cnidaria; Hydrozoa; Hydraide; Hydra.
                                                               01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical 87.6 kba protein.
Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS500007; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
SEQUENCE 738 AA; 84469 MW; 058120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR00390; PHPHLIPASEC.
ProDom; PD001202; PI_PLC_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00148; PLCYC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00168; C2; 1.
Pfam; PF00036; efhand; 2.
Pfam; PF00388; PI-PLC-X; 1.
Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE;
PROSITE;
NON_TER
                                           Eukaryota;
                                                                                                                                                                                                               29BRC7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000008; C2.
InterPro; IPR002048; EF-hand.
InterPro; IPR001192; FI_PLC.
InterPro; IPR001999; FI_PLC_Xdom.
InterPro; IPR001711; FI_PLC_Y.
                                                                                                                                                                                      29вкс7;
                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                      385 TLTSKILFKDVI 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=6085;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                           æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         191 FWNAGCQMVALN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     694 FWNAGCOMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
Ü
                                                                                                                                                                                                                                                                                                                             TLTSKILFKDVI 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . Similarity
12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PS50007;
PS50008;
                                         Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               738 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              639 AA;
                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PIPLC_Y_DOMAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               84469 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.00.08; PIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cnidaria; Hydrozoa; Hydroida; Anthomedusae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           72530 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                        1.0%; Score 12;
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 12;
Pred. No.
                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            058120C26A61A8A6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23ECEF24EAE1A185 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         :::
                                                                                                                                                                                                            762
                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 5;
0.0048;
                                                                                                                                                                                                          A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.0042;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 738;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 639,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         genes
                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
```

```
뫄
                                                                                                                                                                                                                                                                                       RESULT
Q8SPR7
                                                                                               망
                                                                                                                                                                                                                                                                                                                                                            Ş
                                                         Query Match
Best Local
                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SMART; SM00239; C2; 1.

SMART; SM00234; EFb; 3.

SMART; SM00054; EFb; 3.

SMART; SM00123; PH; 1.

SMART; SM00149; PLCYC; 1.

SMART; SM00149; PLCYC; 1.

SMART; SM00149; PLCYC; 1.

PROSITE; PS50004; C2_DOMAIN_2; 1.

PROSITE; PS500018; EE_HAND; UNKNOWN_2.

PROSITE; PS50003; PH_DOMAIN; 1.

PROSITE; PS50008; PHPLC_X_DOMAIN; 1.

PROSITE; PS50008; PHPLC_X_DOMAIN; 1.
                                                                                Smith T.P.L.;
Smith T.P.L.;
Submitted (APR-2002) to the EMBL/GenBank/DDBJ
EMBL; AF498759; AAM18122.1; -.
EMBL; AF498759; AAM18122.1; -.
86E5706A7424754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR001849; F
InterPro; IPR001192; F
InterPro; IPR000909; F
InterPro; IPR001711; F
                                                                                                                                                                                                    01-JUN-2002 (TIEMBLITE1. 21, 01-JUN-2002 (TIEMBLITE1. 21, 01-JUN-2002 (TIEMBLITE1. 21, Phospholipase C delta 4. Sus scrofa (Pig).
                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                  NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                Q8SPR7;
                                                                                                                                                                                                                                                                             Q8SPR7
                                                                                                                                                                                                                                                                                                                                                                                                                                  Hypothetical SEQUENCE 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (APR-2001)
EMBL; BC006355; AAH06
HSSP; P10688; 1QAS
 310
                      335 SSHNTYLVGDQL 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS; PR00390; PHPHLIPASEC ProDom; PD001202; PI_PLC_Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Strausberg R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE-BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                            335 SSHNTYLVGDQL 346
                                                                                                                                                                                                                                                                                                                                     303 SSHNTYLVGDQL
SSHNTYLVGDQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PF00169; PH; 1.
PF00388; PI-PLC-X; 1.
PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PF00168; C2; 1.
PF00036; efhand; 2.
                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; IPR000008; C2.
; IPR002048; EF-hand.
; IPR001849; PH.
; IPR001192; PI_PLC.
; IPR000909; PI_PLC_xdom.
; IPR001711; PI_PLC_x.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eutheria; Primates; Catarrhini; Hominidae; Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                al protein.
762 AA; 8
                                                                                                                                                                                                                                                                                                                                                                              1.0%; Score 12; ilarity 100.0%; Pred. No. Conservative 0; Mismatch
                                              Conservative
                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2001) to the AAH06355.1;
                                                                                                                                                                                                                                                                                                                                      314
                                                         1.0%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                  87585 MW;
                                             0,
                                                        Score 12;
Pred. No.
                                                                                                                                                                                                                         Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                   Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                            PRT;
                                                                                          86E5706A74247548 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                               5444BE5CE2AEA3EF CRC64;
                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                            772
                                                                    DB 6;
                                                         0.005;
                                                                                                                                                                                                                                                                                                                                                                                             0.005;
                                                                                                                                                                                                                                                                                                                                                                                                          DB 4;
                                                                                                                  databases
                                                                  Length 772;
                                                                                                                                                                                                                                                                                                                                                                                                       Length 762;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          databases.
                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                            0;
                                                                                                                                                                                                                                                                                                                                                                                 0,
                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                          0;
                                                                                                                                                                                                                                                                                                                                                                               0
```

RESULT

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                               RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF00168; C2; 1.
Pfam; PF00388; PI-PLC-Y; 1.
Pfam; PF00389; PI-PLC-Y; 1.
Pfam; PF00387; PI-PLC-Y; 1.
PRODOM; PF001202; PI_PLC_Y; 1.
SMART; SM001203; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCXC; 1.
SMART; SM00149; PLCXC; 1.
PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50004; C2_DOMAIN_3; 1
PROSITE; PS50008; PIPLC_X_DOMAIN; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     097035;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hydra magnipapillata (Hydra).
Eukaryota; Metazoa; Cnidaria; Hydrozoa; Hydroida; Anthomedusae;
Hydridae; Hydra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Koyanagi M., Ono K., Suga H., Iwabe N., Miyata T.; Phospholipase C cDNAs from sponge and hydra Antiquity of involved in the inositol phospholipid signaling pathway."; Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases. EMBL; AB017511; BAA76276.1; ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000008; C2.
InterPro; IPR0001192; PI_PLC.
InterPro; IPR000909; PI_PLC.xd
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PLC-betaH1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HSSP; P10688; 1DJX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID-6085;
                                                                                                                                                                                                                                                                  089040;
01-NOV-1998 (TIEMBLrel. 08, Created)
01-NOV-1998 (TIEMBLrel. 08, Last sequence update)
01-JUN-2002 (TIEMBLrel. 21, Last annotation update)
                                                                                                                                  TISSUE=GUSTATORY;
Roessler P., Kroner C., Freitag J., Noe J., Breer H.;
"Identification of a phospholipase C beta subtype in
                                                                                                                                                                                                              Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sclurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                      Phospholipase C beta 2.
                                                                                                                                                                                                                                                                                                                       089040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
             Interpro; IPR001008; C2.
Interpro; IPR001192; PI_PLC.
Interpro; IPR001999; PI_PLC_Xd
Interpro; IPR001711; PI_PLC_Y.
Pfam; PF00168; C2; 1.
                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                      609
                                                                                 HSSP;
                                                                                                          Submitted (SEP-1998) to the
                                                                                                                      cells.
                                                                                                                                                                                                  NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                               694 FWNAGCOMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                        FWNAGCQMVALN 620
                                                                                 P10688;
                                                                                            AJ011035;
  PF00388;
                                                                                                                                                                                                                                                                                                                                                                                                                                           12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1012 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
  PI-PLC-X; 1.
                                                                                             CAA09465.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               116186 MW; BD7CF51F96A23118 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.0%; Score 12;
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        _xdom.
                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                           Xdom.
                                                                                                           EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1012
                                                                                                                                                                                                                                                                                                                         1183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A
                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.0064;
                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1012;
                                                                                                                                       in rat taste
                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
```

```
ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRINTS; PRO030; PHPHLIPASEC.
PRON30; PRO01202; PI_PLC_Y; 1.
SMART; SM00139; C2; 1.
SMART; SM00149; PLCYC; 1.
SMART; SM00149; PLCYC; 1.
SMART; SM00149; PLCYC; 1.
PROSITE; PS500004; C2_DOMAIN_2; 1.
PROSITE; PS500007; PIPLC_X_DOMAIN; 1.
PROSITE; PS500008; PIPLC_X_DOMAIN; 1.
SEQUENCE 1183 AA; 134882 MW; BA3AD6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
Query Match
                                                         PRINTS; PRO0390; PHPHLIPASEC.
PRODOM: PD001202; PI_PLC_Y; 1.
SMART; SM00129; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN; 1
PROSITE; PS50008; PIPLC_X_DOMAIN; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q92137;
Q92137;
Q92137;
01-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00387; PI-PLC-Y; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Phospholipase C beta type (EC 3.1.4.3) (LIPOPHOSPHODIESTERASE I)
(Lecithinase C) (Clostridium WELCHII alpha-toxin) (Clostridium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Ver
Amphibia; Batrachia; Anura; Mesobatrachia;
Xenopodinae; Xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OEDEMATIENS beta- and gamma-toxins).
                                                                                                                                                                                                                                                                                                                                                                                                                                        "Receptor-evoked C1- current in Xenopus oocytes is mediated through a beta-type phospholipase C. Cloning of a new form of the enzyme."; J. Biol. Chem. 268:19915-19918(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PLCI
                                                                                                                                                                                                                                                                                       -|- COFACTOR: ZINC.
EMBL; L20816; AAA03065.1; -.
EMBL; Y15901; CAA75861.1; -.
HSSP; P10688; LQAS.
                                                                                                                                                                                                                                                                                                                                                                Submitted (DEC-1997) to the EMBL/GenBank/DDBJ databases. 
 -i- CATALYTIC ACTIVITY: A PHOSPHATIDYLCHOLINE + H(2)O = 1,2-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ма н. w.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         624 FWNAGCOMVALN 635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       694 FWNAGCOMVALN 705
                                                                                                                                                                                 Pfam; PF00168; C2; 1.
Pfam; PF00388; PI-PLC-X; 1.
Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                  Rawlings
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=93388545; PubMed=8397190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                             InterPro; IPR001192; PI_PLC.
InterPro; IPR000909; PI_PLC_Xdom.
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      yengar R.;
                              SEQUENCE
                                                                                                                                                                                                                                                                          nterPro; IPR000008; C2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity 100.0%; les 12; Conservative
                                                                                                                                                                                                                                                                                                                                                   DIACYLGLYCEROL + CHOLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Blitzer R.D., Healy E.,
                                 1210 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.0%; Score 12; DB 11;
100.0%; Pred. No. 0.0073;
                                 138649 MW; E414CF70EC0F36DC CRC64;
    1.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
   Score 12;
                                                                                                                                                                                                                                                                                                                                                     PHOSPHATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BA3AD63FE074A18C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Premont R.T., Landau E.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1210 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vertebrata;
      DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pipoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1183;
      Length 1210;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
```

Local

Similarity

100.0%;

Conservative

0;

Indels

0;

```
ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCOMPAND DEPTH OF THE PROPERTY OF THE PROPERT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Prodom; produzo; pipic_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00148; picxc; 1.
SMART; SM00149; picxc; 1.
SMART; SM00149; picxc; 1.
PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_X_DOMAIN; 1.
                                                                                                                                                                                                                                    01-MAY-1997 (TrEMBLrel. 03, Created)
01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Phosphoinositide-specific phospholipase C (Fragment
                                                                                       Neurospora crassa.
Rukaryota; Fung1; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariales; Sordariaceae; Neurospora.
NCBI_TaxID=5141;
MEDLINE=97306430; PubMed=9163731;
                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                            P78708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q91086 PRELIMINARY; PRT; 1211 AA.
Q91086;
Q91086;
Q1-NOV-1996 (TrembLrel. 01, Created)
01-NOV-1996 (TrembLrel. 01, Last sequence update)
01-JUN-2002 (TrembLrel. 21, Last annotation update)
Phospholipase C beta.
Meleagris gallopavo (Common turkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00168; C2; 1.
Pfam; PF00388; PI-PLC-X; 1.
Pfam; PF00387; PI-PLC-Y; 1.
PRINTS; PR00390; PHPHLIPASEC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    erythrocytes.
Biochem. J. 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Waldo G.L., Paterson A., Boyer J.L., Nicholas R.A., Harden T.K.;
"Molecular cloning, expression and regulatory activity of G alpha 11-
and beta gamma-subunit-stimulated phospholipase C-beta from avian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             312 QDMTQPLSHYFI 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              322 QDMTQPLSHYFI 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPRO00008; C2.
InterPro; IPRO01192; PI_PLC.
InterPro; IPR000909; PI_PLC_Xdom.
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. MEDLINE=96257751; PubMed=8687401;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               14
                              SSUE=MYCELIUM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               650 FWNAGCQMVALN 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        694 FWNAGCQMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              em. J. 316:559-568(1)
U49431; AAC60011.1;
P10688; IQAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1211 AA; 139061 MW;
                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 316:559-568(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Aves; Neognathae; Galliformes; Meleagrididae; Meleagris.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.0%; Score 12; DB 13; 100.0%; Pred. No. 0.0075;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pred. No. 0.0075;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4E96A10C6AFD6B5A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                             32 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.0075;
                                                                                                                                                                                                                                             (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1211;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
```

```
AC ON C PROPERTY OF THE PROPER
  Ŷ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9ЈКм2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
-- rocal Similarity
-- ronser
                                                                                                                                                                                                                     PRINTS; PR00390; PHPHLIPASEC.
ProDom; PD001202; PI_PLC_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00149; PLCYG; 1.
SMART; SM00314; RA; 1.
PROSITE; PS50004; C2_DOMAIN_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                         SEQUENCE
                                                                                                                                                                                  PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9JKM2;
01-OCT-2000
01-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF00168; C2; 1.
Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00788; RA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000008; C2.
InterPro; IPR001192; PI_PLC.
InterPro; IPR001711; PI_PLC_Y.
InterPro; IPR000159; RA_domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HSSP; P10688; 1DJH.
MGD; MGI:1921305; Plce1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "A novel transgenic marker for migrating limb muscle precursors and for vascular smooth muscle cells.";
Dev. Dyn. 220:60-73(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
722 ANGGCGYVLKP 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tidhar A., Reichenstein M., Cohen D., Gilbert D.J., Jenkins N.A., Shani M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=20581708; PubMed=11146508;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Phospholipase C-like protein (Fragment). PLCE1 OR 4933403A21RIK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE;
NON_TER
NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9ЈКМ2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Jung O.J., Lee E.J., Kim J.W., Chung Y.R., Lee C.-W.; "Identification of putative phosphoinositide-specific phospholipase genes in filamentous fungi."; MO1. Cells 7:192-199(1997).

EMBL; U65687; AAB39567.1; -.

HSSP; P10688; LDIX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             362 GCRCVEVDCWD 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR000909; PI_PLC_Xdom.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22 GCRCVEVDCWD 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ĀF233885;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PF00388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        00388; PI-PLC-X; 1.
PS50007; PIPLC_X_DOMAIN; 1.
                                                                                                                                                    622 AA;
                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    32 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.9%; Score 11; DB 3; llarity 100.0%; Pred. No. 0.0033; Conservative 0; Mismatch-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAF40208.1; -.
                                                                                                                                                                                                                                                                                                                                PI_PLC_Y; 1
                                                                                                                                                                                                                             C2_DOMAIN_2; 1.
                                                                                                                                      69951 MW; 523525661DFED363 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3570 MW;
                                   0.9%; Score 11; DB 11; Length 622; 100.0%; Pred. No. 0.047; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18FA4F795CCA2FD9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Faerman A., Copeland N.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 32;
                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
```

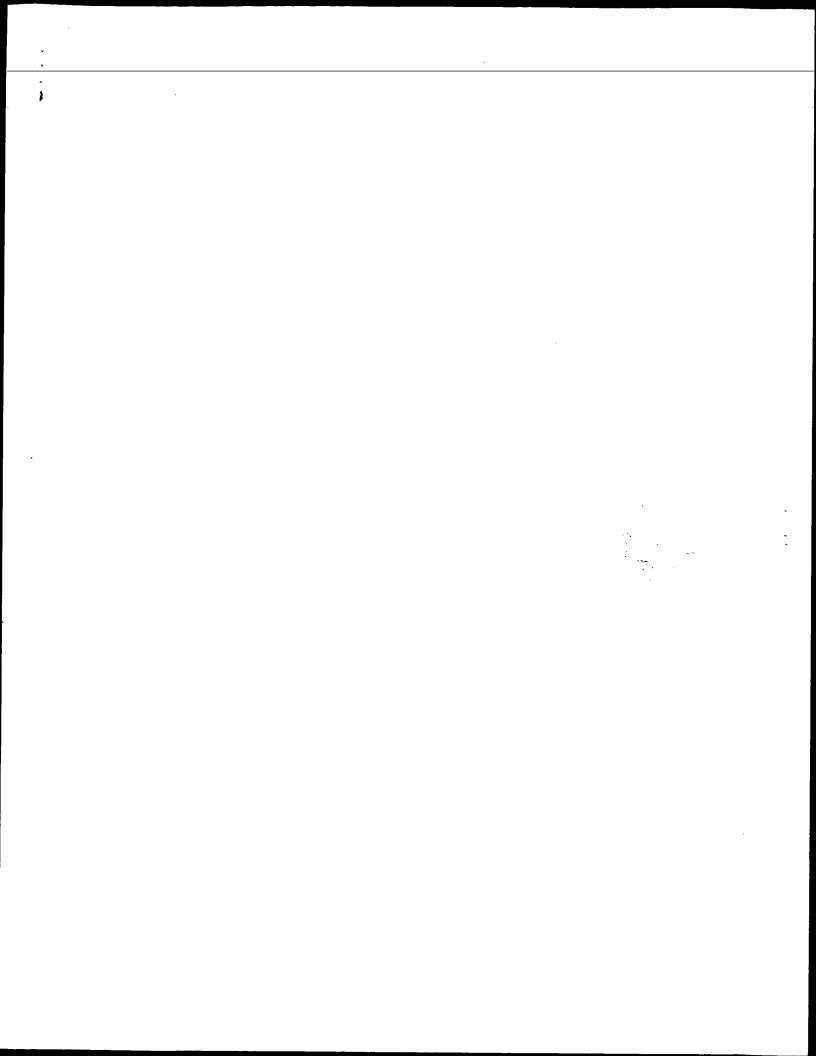
Search completed: March 28,

2003, 14:04:58

밁

152 ANGGCGYVLKP 162

Job time : 118 secs



```
Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                      Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Post-processing: Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Word size :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence:
    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                        Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OLIGO
                                                                                                                                                                                                                                                                                                                                                                                                   Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-927-112-2
1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          March 28, 2003, 14:02:31; Search time 31 Seconds (without alignments) 1145.596 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6:43:1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              262574 seqs, 29422922 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Issued_Patents_AA:*
  00.000.000.000.000.77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MAPPTAGPLPGPALPPEDPG.....ALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
    /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/1/iaa/backfiles1.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                        Length
  DB
US-09-738-884-5
US-09-738-884-2
US-08-138-641-2
US-08-138-133-2
US-08-18-59-61-18
US-09-222-938A-4
US-09-232-938A-4
US-08-664-596B-18
US-08-628-323-38
US-08-28-759-24
US-09-28-38-33-39
US-09-28-986-130
US-09-18-111-137
US-09-08-556-142
US-09-072-596-137
US-09-08-937-311
US-09-08-938-9118-37
US-09-18-020-49
US-09-18-020-49
US-09-18-020-49
US-09-18-033-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUMMARIES
 Sequence 5, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 14, Appli
Sequence 4, Appli
Sequence 18, Appli
Sequence 38, Appli
Sequence 38, Appli
Sequence 12, Appli
Sequence 14, Appli
Sequence 130, Appli
Sequence 142, Appli
Sequence 142, Appli
Sequence 142, Appli
Sequence 137, Appli
Sequence 137, Appli
Sequence 31, Appli
Sequence 37, Appli
Sequence 27, Appli
                                                                                                                                                                                                                                                                                                                                                                                                        Description
```

				· •	
	US US	77 Y 75	S S S S S S S S S S S S S S S S S S S		
Onerv Mat	SULT 2 -09-738- Sequence Patent N GENERAL APPLICA TITLE O TITLE O TITLE C CURRENT CURRENT NUMBER SOFTWAR SEQ ID N LENGTH TYPE: TYPE: ORGANI	SEQ ID N LENGTH TYPE: ORGANI -09-738- Query Ma Best Loc Matches 723	RESULT 1 Sequence 5, Application US/097; Patent No. 6391606 GENERAL INFORMATION: APPLICANT: GUEGLER, Karl et a TITLE OF INVENTION: ISOLATED TITLE OF INVENTION: PROTEINS TITLE OF INVENTION: PROTEINS FILE REFERENCE: CLO00849 CURRENT FILING DATE: 2000-12; NUMBER OF 58Q ID NOS: 5 NUMBER OF 58Q ID NOS: 5 SOFTWARES: FASTSEQ for Windows	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	28 29 30 31
<u>.</u>	884-2 2, Applicati 2, Applicati 3, 6391606 INFORMATION: INFORMATION: PINVENTION: PINVENTION: PINVENTION: PINVENTION: PINTENCE: CLOC APPLICATION OF SEQ ID NOS FIELD DATE: FASTSEQ fc NO 2 PRT 1SM: Human 1884-2	Mu M	84-5 5 6391 NFORM T: GUI INVEN INVEN INVEN INVEN APPELICA FILING FILING	1111111111111	17777
	plic 1600 ATI EGLI NTI NTI G Di I D I T CAT: (C CAT: (C CAT: (VLI VLI VLI	Plic 1606 ATIC EGLE NTIC E: C CATIC ID	0000000000	
	Applicat Applicat 391606 GRMATION: GUEGLER, VENTION: VENTION: VENTION: VENTION: LICATION LICA	nus ari ons	ica ica ica ica ica ica ica ica ica	000000000000000000000000000000000000000	
	W 2 2 2 1	musculus illarity Conservati VLKP 732	cation 6 5 ON: ON: ION:		
	Karl et ISOLATEI NUCLEI	at	UM PRUSOR	5055 5055 5055 5055 5055 5055 5055 505	2 2 2 2 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4
_	US,	0. 100 1ve	US, LA1 CLI OTI BEE	77 6 2 2 2 5 5 5 6 6 7 7 7 6 7 7 7 6 7 7 7 7 7 7 7	0 4 0 0 0 0
7.9	ion US/09738884 Karl et al ISOLATED HUMAN NUCLEIC ACID PROTEINS, ANI 00849 NUMBER: US/09, 2000-12-18 S: 5 S: 5 S: T Windows Vers	0 . 8 9 . 9 .	ton US/0973888 Karl et al ISOLATED HUMA NUCLEIC ACID PROTEINS, AN D0849 NUMBER: US/09 12-18 15 2000-12-18 Dr Windows Ver	144411114440	24441
•	S S S P H L 3	o**	- S - > H - 3	SD 0820 SD 082	S G G G G G G G G G G G G G G G G G G G
Š	38884 ILL HUMAN PH ACID MOL S, AND US PH	, p. Sco		200000000000000000000000000000000000000	
SOCIE	ŭ. j ~ z -	Mi Ore	4 MO MO D U	LI 8000000000000000000000000000000000000	
e G	on 28,	i.	n 8 SEEO	G 853	910
٠	- 4 - 88 - 4 - 90 - 30 - 4	a NO;	SPH SCUL S T		77.47.
7	W PHOSPHOLI MOLECULES D USES THEE /738,884 sion 4.0	Score 10; DB Pred. No. 0.3; Mismatches	HOI LES THE	09-076-510 09-240-639 09-165-241 08-068-395 08-068-395 08-464-365 08-464-365 08-464-365 08-509-909-509-509-909 09-525-008	5572 7272
P .	PHOSPHOLIPASE PRO IOLECULES ENCODING USES THEREOF '38,884	DB 0.3	4 PHOSPHOLIPASE PROMOLECULES ENCODING 5 USES THEREOF 7738,884	8-09-076-510-3 -09-140-639-10 -09-165-241-1 -08-068-395A-1 -08-068-395A-1 -08-068-395A-3 -08-464-365-3 -08-464-365-3 -09-509-902A-11 -08-894-818B-3 -09-535-008-63 -09-535-008-63 -08-852-153-4 ALIGNMENTS	464777
-	PAS SOF	2) 4	OF AS	3 3 11 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	9
_	B	0; F	2D1		
Length	I NG	en	NG NG		
7	H	Length ; Ind			
736	PROTEINS,		PROTEINS,		
3	-	4	z·	Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence	Sequence Sequence Sequence Sequence Sequence
	РН		РНС	ent ent ent ent ent ent ent ent	ine fue
	4SC	0;	9SC	Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence	noe noe noe
	PHOSPHOLIPASE		PHOSPHOLIPASE	20111111111111111	
	,I _P ,	Gaps	Ιρį	ω·	> >>>>
	AS E	ca .	4SE	Appli Appli Appli Appli Appli Appli Appli Appli Appli	Appli Appli Appli Appli Appli Appli
				و معراضًا منو منوا منوا منواحيًا منوامنوا بيّر عنوا	. p p p p p

0;

Query Match

0.7%;

Score 9;

DB 4;

Length 736

밁 δÃ

```
Sequence 2, Application US/08138133; Patent No. 5519163; Patent No. 1000 No.
                                                                                                                                                                                                                                                                                                                                         us-08|-138-133-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-138-641-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 3
US-08-138-641-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match

Best Local Similarity

Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application US/08138641 Patent No. 5474921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GÉNERAL INFORMATION:
APPLICANT: KODLAN, Kenneth S.
APPLICANT: KODLAN, Kenneth S.
APPLICANT: Pompliano, David L.
TITLE OF INVENTION: ASSAY TO DETERMINE INHIBITORS OF
TITLE OF INVENTION: PHOSPHOINOSITIDE-SPECIFIC PHOSPHO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 594-3903
TELEFAX: (908) 594-4720
TELEFAX: (908) 594-4720
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY AGENT INFORMATION:
NAME: Muthard, David A.
REGISTRATION NUMBER: 35,297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                       CORRESPONDENCE ADDRESS:
                                                                                          TITLE OF INVENTION: INHIBITORS OF PHOSPHOINOSITIDE-SPECIFIC TITLE OF INVENTION: PHOSPHOLIPASE C
                                                                NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 406 EYPVILSIE 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    408 EYPVILSIE 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              463 LVKGKKLPA 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            425 LVKGKKLPA 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/08/138,641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rahway
: New Jersey
                                                                                                                                       KOBLAN, KENNETH S.
MACLEOD, ANGUS M.
MERCHANT, KEVIN J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            E: David A. Muthard
P.O. Box 2000, 126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1290 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
              DAVID A. MUTHARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.08; F1
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PHOSPHOINOSITIDE-SPECIFIC PHOSPHOLIPASE C-GAMMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 9; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. 3.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 1;
c. 5.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 1290;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-850-910A-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-138-133-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 18, Application US/08850910A Patent No. 5948761
                                                                APPLICATE: 05-MA1-1...
FILING DATE: 05-MA1-1...
CLASSIFICATION: 435
PRIOR APPLICATION DATA: 477,226
APPLICATION NUMBER: 07/477,226
APPLICATION NUMBER: 07/299,880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: (908) 594-3903
TELEFAX: (908) 594-4720
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: SEILHAMER, J.J. APPLICANT: LEWICKI, J. APPLICANT: SCARBOROUGH, R.M.
                                                                                                                                                                                                                                                          SOFTWARE: FastSEQ for Windows Version 2.0b CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: MUTHARD, DAVID A.
REGISTRATION NUMBER: 35,297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (908) 594-3903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           408 EYPVILSIE 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         406 EYPVILSIE 414
                                             FILING DATE: 08-FEB-1990
APPLICATION NUMBER: 07/2:
FILING DATE: 19-JAN-1989
APPLICATION NUMBER: FILING DATE: 14-JU
                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Washington
STATE: DC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: MORRISON & FOERSTER, LLP
STREET: 2000 Pennsylvania Avenue, NW, Suite 5500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
les 9; Consert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: FILING DATE: CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                   20006-1888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RAHWAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NEW JERSEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P.O. BOX 2000, 126 E. LINCOLN AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1290 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein
  14 -JUN-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RECOMBINANT TECHNIQUES FOR PRODUCTION OF BRAIN NATRIUETIC PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0.7%; Score 9; I
100.0%; Pred. No.
                                                                                                                                                                                                                                      US/08/850,910A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                us/08/138,133
                   /206,470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1290;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
```

Gaps

0

멍

RESULT 4

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-850-910A-18
                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
"hes 8; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-222-938A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-222-938A-4
                                                                                                                                                                                                                                                        US-09-738-884-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 4, Application US/09222938A Patent No. 6437108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 4
                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                           Sequence 4, Application US/09738884 Patent No. 6391606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Youngman, Philip
APPLICANT: Windy, Chrisian
APPLICANT: Murphy, Christopher
APPLICANT: Murphy, Christopher
APPLICANT: Guzman, Luz-Maria
TITLE OF INVENTION: ESSENTIAL BACTERIAL GENES AND THEIR USE
TILE REFERENCE: 07334/060001
CURRENT APPLICATION NUMBER: U5/09/222,938A
CURRENT APPLICATION NUMBER: U5/09/222,938A
CURRENT FILING DATE: 1998-12-30
NUMBER OF SEQ ID NOS: 102
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 07/200,38
FILING DATE: 31-MAY-198
ATTORNEY/AGENT INFORMATION:
NAME: MUTASHIGE, KATE H
REGISTRATION NUMBER: 29,959
REFERENCE/DOCKET NUMBER: 2190
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-887-1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO:
                                                                                 APPLICANT: GUEGLER, KAR1 et al
TITLE OF INVENTION: ISOLATED HUMAN PHOSPHOLIPASE PROTEINS,
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING HUMAN PHOSPHOLIPASE
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
FILE REFERENCE: CL000849
CURRENT APPLICATION NUMBER: US/09/738,884
CURRENT FILING DATE: 2000-12-18
NUMBER OF SEQ ID NOS: 5
SOFTWARE: FASTSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 335
TYPE: PRT
ORGANISM: Streptococcus pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 177 amino acids
TYPE: amino acid
CMD241772173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: protein FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               152 SQKPGRRG 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       932 SQKPGRRG 939
                                                                                                                                                                                                                                                                                                                                                                                 154 SDEDSLAR 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: 202-822-0168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                            90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity 100.0%; Fes 8; Conservative 0;
                                                                                                                                                                                                                                                                                                                                         SDEDSLAR 97
                                                                                                                                                                                                                                                                                                                                                                                                                         0.7%; Score 8; DB of the conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ss: single
linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       07/200,383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 8; DB;; Pred. No. 8.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 219002025212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 177;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 335;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
```

```
; SEQ ID NO 4
: LENGTH: 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-738-884-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-664-596B-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; Sequence 18, patent No. 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 8
망
                                                                                                                     US-08-664-596B-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                            Matches
                                                                     Best Local Similarity
                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT ORGANISM: Cricetulus griseus
                                                                                                                                                                                                                         TELEFAX: (617) 876-5851
INFORMATION FOR SEQ ID NO: 18:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPOTIER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: BIOWN, SCOTT A.
REGISTRATION NUMBER: 32,724
TELECOMMUNICATION: NFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                            1096 SSDSSSP 1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  625 ISGQQLPK 632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                761 ISGQQLPK 768
                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 131 amino acids
                                                                                                                                  MOLECULE TYPE: protein
119 SSDSSSP 125
                                                                                                                                                STRANDEDNESS:
TOPOLOGY: li
                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/664,596B FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 02140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Cambridge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE:
                                                                                                                                                                                                                                                       TELEPHONE:
                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                                                                                                                                           LENGTH:
                                                                                                                                                                                amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/08664596B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 87 CambridgePark Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Spaulding, Vikki
Bowman, Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Treacy, Maurice
Evans, Cheryl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 McCoy, John
LaVallie, Edward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Jacobs, Kenneth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Merberg,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Racie, Lisa
                                                          Conservative
                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Genetics Institute, Inc.
                                                                                                                                                                                                                                                         (617) 498-8224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM
                                                                       0.6%; Score 7; 1
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.7%; Score 8; I
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    David

 Mismatches

                                                            0;
                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 744;
                                                                                        Length 131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
```

US-08-279-058B-38

```
RESULT 10
US-08|828-323-38
; Sequence 38, Application US/08828323A
; Sequence 38, Application US/08828323A
; Patent No. 6413753
; GENERAL INFORMATION:
: APPLICANT: O'Donnell, Michael
: TITLE OF INVENTION: DNA POLYMERASE III HOLOENZYME
: FILE REFERENCE: 19603/10214
; FILE REFERENCE: 19603/10214
                                                                                                                                         ; ORGANISM: Escherichia coli
US-08-828-323-38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Thes 7; Conserv
                                                                                                                                                                                         SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 38
LENGTH: 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 38, Application
Patent No. 5668004
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: 1
TITLE OF INVENTION: 1
                                                                                                   Query Match
                                                                       Matches
                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/08/828,323A CURRENT FILING DATE: 1997-03-28 NUMBER OF SEQ ID NOS: 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: George M. Yahwak
REGISTRATION NUMBER: 26,824
REFERENCE/DOCKET NUMBER: CRF |
TELECOMMUNICATION INFORMATION:
TELEPHONE: (203)268-1951
TELEFAX: (203)268-1951
INFORMATION FOR SEQ ID NO: 38:
                                                                                                                                                                              TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1122 PGALQGE 1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 137 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: Macintosh
OPERATING SYSTEM: MS-DOS
SOFTWARE: Microsoft Word 4.0
CURRENT APPLICATION DATA:
                                  122 PGALQGE 1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 60
CORRESPONDENCE ADDRESS:
ADDRESSEE: Yahwak & Associates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -279-058в-38
22 PGALQGE 28
                                                                    Local Similarity nes 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22 PGALQGE 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/279,058B FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Trumbul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Connecticut
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/08279058B
                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              137 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25 Skytop Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Michael E. O'Donnell
NVENTION: DNA POLYMERASE III
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Floppy disk
                                                            0.6%; Score 7; DB 4;
100.0%; Pred. No. 73;
ative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0.6%; Score 7; 1
100.0%; Pred. No.
tive 0; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HOLOENZYME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CRF D-1056CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 1;
o. 73;
                                                                                               Length 137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 137
                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                            0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
```

```
Qy
                                                                                                                                                                                                                                                                   DЬ
                                                                                                                                                                                             RESULT 12
US-08-924-759-24
                                                                                                                                                                                                                                                                                                                                                                                                      PCT-US95-04910-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 11
PCT-US95-04910-12
                                                                                                                                                           Sequence 24, Application US/08924759 Patent No. 5962229
                                                                                                  GENERAL INFORMATION:
APPLICANT: MCGONIGLE, BRIAN
APPLICANT: O'KEEFE, DANNEL
                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 12, Application PC/TUS9504910 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO:
CORRESPONDENCE ADDRESS:
ADDRESSEE: E.I. DU PONT DE NEMOURS AND COMPANY
STREET: 1007 MARKET STREET
                                                   TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 171 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEFAX: (212) 751-6849
TELEX: 421792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 1
FILING DATE: 21-APR-1
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                160 ARRQRTR 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION: NAME: WILLIAM S. FEILER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: MORGAN & FINNEGAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: ISOLATION AND
TITLE OF INVENTION: CHARACTERIZATION OF A NOVEL PRIMATE T-CELL
TITLE OF INVENTION: LYMPHOTROPIC VIRUS AND THE USE OF THIS VIRUS
TITLE OF INVENTION: OR COMPONENTS THEREOF IN DIAGNOSTIC ASSAYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                   Local Similarity
tes 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE: N
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                                                                                                                                                                               4 ARRQRTR 10
                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US08 FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                  amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10154
                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  345 PARK AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              States of America as represented
by the Secretary, Department of
                                                                                                                                                                                                                                                                                                                                                                                                                    unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Health and Human Services
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The Government of the United
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IBM PC COMPATIBLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-APR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown
                                                       ENZYMES
24
                                                                                    PLANT GLUTATHIONE-S-TRANSFERASE
                                                                                                                                                                                                                                                                                                                           0.6%; Score 7; DB 5
100.0%; Pred. No. 89;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AND VACCINES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US08/231,526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PCT/US95/04910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26,728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2026-4125PCT
                                                                                                                                                                                                                                                                                                                                                              DB 5;
                                                                                                                                                                                                                                                                                                                                              89;
                                                                                                                                                                                                                                                                                                                                                              Length 171;
                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                       Gaps
```

0,

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                               δã
                                                                                                                                     US-09-248-335-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 13
US-09-248-335-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-924-759-24
                                                                                                                                                                                   SOFTWARE: Microsoft Word Version 7.0A
SEQ ID NO 24
LENGTH: 180
                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 24, Application US/09248335 Patent No. 6096504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                 Matches
                                                                                                                                                                                                                                        APPLICANT: MCGONIGLE, BRIAN
APPLICANT: O'KEEF, DANIEL
TITLE OF INVENTION: PLANT GLUTATHIONE-S-TRANSFERASE ENZYMES
FILE REFERENCE: CL-1128-A
CURRENT APPLICATION NUMBER: US/09/248,335
CURRENT FILING DATE: 1999-02-10
EARLIER APPLICATION NUMBER: 08/924,759
EARLIER FILING DATE: 1997-September-05
NUMBER OF SEQ ID NOS: 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: 24:
                                                                                                                                                    ORGANISM: maize
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGINAL SOURCE:
TISSUE TYPE: MAIZE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: MICROSOFT WORD FOR WINDOWS 95
SOFTWARE: MICROSOFT WORD VERSION 7.0A
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IMMEDIATE SOURCE:
LIBRARY: CS1.E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 180 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: FLOYD, LINDA AXAMETHY
REGISTRATION NUMBER: 33,692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: DISKETTE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              887 ALCLKGL 893
                               887 ALGLKGL 893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
STRANDEDNESS: not rele
TOPOLOGY: not relevant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER: 33,692
REFERENCE/DOCKET NUMBER: CL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
CLASSIFICATION: 435
24 ALGLKGL 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24 ALGLKGL 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity 100.0%; es 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/924,759
                                                                Local Similarity es 7; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WILMINGTON
: DELAWARE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      302-773-0164
                                                              0.6%; Score 7; DB ilarity 100.0%; Pred. No. 94 Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CS1.PK0059.E2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       UNITED STATES OF AMERICA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      302-892-8112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                not relevant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0.6%; Score 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3.50 INCH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CL-1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 2;
                                                                                  DB 3;
                                                                                                 Length 180;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 180;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                                                                0;
                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                0;
```

RESULT 14

```
; ORGANISM: Eucalyptus US-09-228-986-130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 15
US-08-750-532-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-228-986-130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 130
LENGTH: 224
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 18, Apprix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 130, Application US/09228986 Patent No. 6359198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: MITTA, Masanori
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/228,986
CURRENT FILING DATE: 1999-01-12
NUMBER OF SEQ ID NOS: 130
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Compositions Isolated from Plant Cells TITLE OF INVENTION: and Their Use in the Modification of Plant Cell Signalling FILE REFERENCE: 11000/1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Strabala, Timothy APPLICANT: Nieuwenhuizen, Niels
                                                                                                                                                                                       CLASSIPICATION DATA:
PRIOR APPLICATION NUMBER: PCT/JP95/01095
APPLICATION NUMBER: PCT/JP95/01095
FILING DATE: 05-JUN-1995
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: JP 1994/130236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1096 SSDSSSP 1102
                                                         APPLICATION NUMBER: JP 1994/173912
FILING DATE: 26-JUL-1994
ATTORNEY/AGENT INFORMATION:
NAME: BROWDY, ROGER L.
REGISTRATION NUMBER: 25,618
                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Patentin Rel
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
REFERENCE/DOCKET NUMBER: MITTA-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 628-5197
                                                                                                                                                           APPLICATION NUMBER: FILING DATE: 13-JUN-PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: HYPERTHERMOSTABLE PROTEASE GENE NUMBER OF SEQUENCES: 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 202 SSDSSSP 208
                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/08/750,532 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity nes 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 419 Sever CITY: Washington STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Application US/08750532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E: BROWDY AND NEIMARK, P.L.L.C. 419 Seventh Street N.W., Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YAMAMOTO, Katsuhiko
MORISHITA, Mio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KATO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ASADA, Kiyozo
TSUNASAWA, Susumu
                                                                                                                                                                                                                                                                                                                                                                                         PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Floppy disk
                                                                                                                                                                                  13-JUN-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ikunoshin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      grandis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 7; DB 4; Length 224; Pred. No. 1.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
```

```
SEQUENCE CHARACTERISTICS:

LENGTH: 237 anino acids

TYPE: anino acids

STRANDEDERS: SINGLE

TOPOLOGY: linear

COMETY Match TYPE: CONA

O.6%: Score 7: DB 1: Length 237;

Best Local Similarity 100.0%: Pred. No. 1 20+07;

Matches 7: Conservative 0; Mismatches 0: Indels 0; Gaps 0;

Qy 1169 GSPAAKS 139

Search completed: March 28, 2003, 14:12:10

Job time: 33 secs
```

GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.

```
Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Word size :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OLIGO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-927-112-2
1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          237916 seqs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MAPPTAGPLPGPALPPEDPG.....ALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         March 28, 2003, 14:05:06; Search time 38 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Published_Applications_AA: *
: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
:/cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 58723674 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (without alignments)
1865.249 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    237916
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1207	•	1207	10	US-09-927-112-2	Sequence 2, Appli
N	324	N	325	10	US-09-927-112-10	Sequence 10, Appl
ω	14		1054	10	US-09-828-447-11	
4	13		119	9	US-09-764-868-637	37,
υ	13		119	9	US-09-955-999-84	~
6	12	1.0	102	10	US-09-822-635-7	Sequence 7, Appli
7	12		119	10	US-09-800-971-9	Sequence 9, Appli
œ	12		128	10	US-09-800-971-8	Sequence 8, Appli
9	12	1.0	128	10	US-09-927-112-8	Sequence 8, Appli
10	12		128	10	US-09-908-664-11	
11	12		128	10	US-09-908-664-20	
12	12		340	10	US-09-835-996A-19	19
13	12		567	10	US-09-835-996A-8	Sequence 8, Appli
14	12	1.0	762	10	US-09-804-969-15	15,
15	12	1.0	762	10	US-09-908-664-2	Sequence 2, Appli
16	11	0.9	119	10	US-09-908-664-15	Sequence 15, Appl
17	11	0.9	128	10	US-09-908-664-23	Sequence 23, Appl
18	11	0.9	1809	10	US-09-822-635-2	Sequence 2, Appli
19	10	0.8	92	10	US-09-927-112-16	Sequence 16, Appl

45	44	43	42	41	40	39	38	37	36	35	34	ယ္အ	32	31	30	29	28	27	26	25	24	23	22	21	20
7	7	7	7	7	7	œ	œ	œ	8	80	80	œ	œ	œ	œ	80	œ	œ	œ	9	9	10	10	10	10
0.6	0.6		0.6		0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
113	104	93	83	71	51	1567	875	744	809	384	335	335	191	170	158	158	158	63	48	736	736	744	628	201	182
9	10	10	10	10	10	10	9	9	10	9	10	10	10	10	10	10	10	10	10	10	9	9	10	10	10
US-09-738-626-4430	US-09-864-761-39244	US-09-764-869-676	us-09-050-010-7	US-09-764-877-1515	US-09-864-761-48515	US-09-835-232-2	US-09-548-933-15	US-10-096-961-4	US-09-908-664-5	US-09-738-626-6924	US-09-815-242-13658	US-09-815-242-13433	US-09-908-664-22	US-09-908-664-13	US-09-927-112-11	US-09-764-860-342	US-09-764-870-377	US-09-908-664-17	US-09-864-761-42929	US-09-800-971-2	US-10-096-961-2	US-10-096-961-5	US-09-828-447-12	US-09-867-550-1334	US-09-800-971-7
Sequence 4430, Ap	Sequence 39244, A	Sequence 676, App	Sequence 7, Appli	Sequence 1515, Ap	Sequence 48515, A	Sequence 2, Appli	Sequence 15, Appl	Sequence 4, Appli	Sequence 5, Appli	Sequence 6924, Ap	Sequence 13658, A	Sequence 13433, A	Sequence 22, Appl	Sequence 13, Appl	_	Sequence 342, App	Sequence 377, App	Sequence 17, Appl	Sequence 42929, A	Sequence 2, Appli	Sequence 2, Appli	Sequence 5, Appli	Sequence 12, Appl	Sequence 1334, Ap	Sequence 7, Appli

ALIGNMENTS

```
밁
                                                                                                                    Qy
                                                                                                                                                               В
                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-927-112-2
                                                                                                                                                                                                                                                                                                                                                                                                              US-09-927-112-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2, Application US/09927112
Patent No. US20020106774A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                          Query Match 100.0%; Score 1207; Best Local Similarity 100.0%; Pred. No. 0; Matches 1207; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Meyers, Rachel
APPLICANT: Silos-Santiago, Inmaculada
TITLE OF INVENTION: 32544, a novel human phospholipase C and
TITLE OF INVENTION: uses thereof
FILE REFERENCE: 38155-20048.00
CURRENT APPLICATION NUMBER: US/09/927,112
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR FILING DATE: 2000-11-08
NUMBER OF SEQ ID NOS: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Millennium Pharmaceuticals, Inc. APPLICANT: Meyers, Rachel APPLICANT: Silos Santiago, Inmaculada
                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 1207
TYPE: PRT
ORGANISM: Homo sapiens
  181
                                        181
                                                                               121 YHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKN 180
                                                                                                                        121
                                                                                                                                                          1 MAPPTAGPLPGPALPPEDPGPDPESRWLFLSANILPVVERCMGAMQEGMQMVKLRGGSKG
                                                                                                                                                                                                                                              GDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDL 240
                                                                                                  YHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKN 180
GDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDL
                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                       DB 10; Length 1207;
                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                              Gaps
  240
                                                                                                                                                                                                                                                                                         60
```

Qy 밁

DЬ Ş

```
RESULT 2
US-09-927-112-10
Sequence
                                                                                               1201
                                                                                                                                  1201
                                                                                                                                                                         141
                                                                                                                                                                                                            141
                                                                                                                                                                                                                                                081
                                                                                                                                                                                                                                                                                     .081
                                                                                                                                                                                                                                                                                                                          .021
                                                                                                                                                                                                                                                                                                                                                               .021
                                                                                                                                                                                                                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                                                                                                                                                                     961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 YLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGIDG
                                                                                                                                                                                 RSKSPMESAGKPLLPCVVLPHAPGMAGPGSPAAASAWTVSPRVLVLVALYPWHCLRGTLL 1200
                                                                                                                                  PWLACGP 1207
                                                                                                                                                                                                                                                           GPGAWRQGPGGSGSMSSDSSSDDSPGIPERSPRWPEGACRQPGAIQGEMSALFAQKLEEI 1140
                                                                                                                                                                                                                                          GPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPEGACRQPGALQGEMSALFAQKLEEI
                                                                                                                                                                                                                                                                                                                  GSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLGAPCCGLDPHAIPGRSREAPK
                                                                                               PWLACGP
                                                                                                                                                                 RSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAASAWTVSPRVLVLVALYPWHCLRGTLL
                                                                                                                                                                                                                                                                                                                                                 GSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLGAPCCGLDPHAIPGRSREAPK 1080
                                                                                                                                                                                                                                                                                                                                                                                        PPGPGPAPEAPAQEGPGSGSPRGKAPAAVAEKSPVRVRPPRVLDGPGPAGMAATCMKCVV 1020
                                                                                                                                                                                                                                                                                                                                                                                                            PPGPGPAPEAPAQEGPGSGSPRGKAPAAVAEKSPVRVRPPRVLDGPGPAGMAATCMKCVV 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVV 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKP 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLFKPRDSMLGDRGEI 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QKPAQYLRENQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQD 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                GŚĹDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QKPAQYLRENQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SPGGQSRGATROKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SPGGOSRGATROKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWOVSSFSETKAHOILO
 10,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTL 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VIQQKKMAQYLTDILGDKLDLSSYSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGIDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCS
 Application
 US/09927112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
```

δÃ 밁

В δÃ 밁 Ş 밁 Qy 밁 Š

δÃ В

В δÃ В δÃ 밁 δÃ

Qy

뫄 δÃ 밁 Ş В ν ₽ Š

Š 밁

```
APPLICANT: Millennium Pharmaceuticals, Inc.

APPLICANT: Millennium Pharmaceuticals,
APPLICANT: Meyers, Rachel

APPLICANT: Meyers, Rachel

APPLICANT: Meyers, Rachel

ITILE OF INVENTION: 32544, a novel human phospholipase C and
ITILE OF INVENTION: uses thereof

FILE REFERENCE: 38155-20048.00

CURRENT APPLICATION NUMBER: US/99/927,112

CURRENT FILING DATE: 2001-08-10

PRIOR APPLICATION NUMBER: US 60/246,808

PRIOR FILING DATE: 2000-11-08

INUMBER OF SEQ ID NOS: 17

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 10

LENGTH: 325

TYPE: PRI
OPENNIUM: Artificial Segmence
                                                                                                                                                                                                                                                                                                                                                                                           ; Sequence 11, Application US/09828447
.; Patent No. US20020069432A1
                                                                                                                                                                                                                                                                                                                                                                        ; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-828-447-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: Artificial Sequence ; FEATURE: OTHER INFORMATION: Consensus amino acid US-09-927-112-10
                                                                                                                                                                                                                                                       APPLICANT: COSTA E SILVA, OSWALDO APPLICANT: BOHNERT, HANS J. APPLICANT: VAN THIELEN, NOCHA APPLICANT: CHEN, ROTYING APPLICANT: ISHITANI, MANABU
APPLICANT: ISHITANI, MANABU
TITLE OF INVENTION: SIGNAL TRANSDUCTION STRESS-RELATED PROTEINS AND METHODS
TITLE OF INVENTION: OF USE IN PLANTS
FILE REFERENCE: 16313-0037
CURRENT FAULCATION NUMBER: US/09/828,447
CURRENT FILING DATE: 2001-08-20
PRIOR APPLICATION NUMBER: 60/196,001
PRIOR APPLICATION NUMBER: 60/196,001
PRIOR FILING DATE: 2000-04-07
NUMBER OF SEC ID NOS: 41
SOCTWARE: PATENTIN VET: 2.1
SOCTWARE: PATENTIN VET: 2.1
SEQ ID NO 11
LENGTH: 1054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Patent No. US20020106774A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1184 LVLVALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               302 LVLVALYPWHCLRGTLLPWLACGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                884 VKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity nes 324; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 VKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPEL 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAASAWTVSPRV 118:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGLDPHAIPGRSREAPKGPGAWROGPGGSGSMSSDSSSPDSPGIPERSPRWPEGACRQPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLGAPC 1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAASAWTVSPRV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPEGACRQPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLGAPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26.8%; Score 324; DB 10; 100.0%; Pred. No. 1.2e-310; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    943
```

0;

No.

DB 9; 0.0001;

Length 119

0,

Gaps

0

```
RESULT 5
US-09-955-999-84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; ORGANISM: Physcomitrella patens US-09-828-447-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-764-868-637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 13
                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 84, Application US/09955999 Publication No. US20030036505A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.0%;
Marches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 637
LENGTH: 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 637, Application US/09764868 Patent No. US20020168711A1 GENERAL INFORMATION:
                                                                                                                  SOFTWARE: PatentIn Ver.
SEQ ID NO 84
LENGTH: 119
TYPE: PRT
                                                                                                                                                                                                                        CURRENT FILING DATE: 2001-09-20 PRIOR APPLICATION NUMBER: 60/234,997 PRIOR FILING DATE: 2000-09-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Rosen et al. TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies FILE REFERENCE: PTZ32
                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/955,999 CURRENT FILING DATE: 2001-09-20
                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: Signal Transduction Pathway Component Polynucleotides, Polypeptic TITLE OF INVENTION: Antibodies, and Methods Based Thereon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/764,868
CURRENT FILING DATE: 2001-01-17
                                                                                                                                                                                                                                                                                                                          FILE REFERENCE: PT086P1
                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Barash et al.
                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Prior application data removed - refer to PALM or file wrapper NUMBER OF SEQ ID NOS: 1510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: SITE LOCATION: (10)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                  NAME/KEY: SITE LOCATION: (10)
                                                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
  OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                             ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: SITE LOCATION: (112)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCATION: (116)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  148 YLMAGISDEDSLA 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                104 VHQDMTQPLSHYFI 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            320 VHQDMTQPLSHYFI 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      53 YLMAGISDEDSLA 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity es 13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2001-01-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.1%; Score 13; DB 9;
100.0%; Pred. No. 0.0001;
                                                                                                                                                                                        2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.2%; Score 14; DB
100.0%; Pred. No. 7.
1ve 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 10; I
7.9e-05;
ches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1054;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-800-971-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 6
US-09-822-635-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids US-09-955-999-84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-822-635-7
                                                                                                                                                                                                                      GENERAL INFORMATION:

APPLICANT: Rachel A. Meyers

APPLICANT: Rachel A. Meyers

TITLE OF INVENTION: 16835, A NOVEL HUMAN PHOSPHOLIPASE C

TITLE OF INVENTION: FAMILY MEMBER AND USES THEREOF

FILE REFERENCE: 10448-023001

CURRENT APPLICATION NUMBER: US/09/800,971

CURRENT FILING DATE: 2001-03-06

PRIOR APPLICATION NUMBER: 60/187,453

PRIOR FILING DATE: 2000-03-07
                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 9, Application US/09800971 Patent No. US20020098577A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL
                                                                                                             SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 1.0%; Score 12; Best Local Similarity 100.0%; Pred. No. Matches 12; Conservative 0; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 7, Application US/09822635 Patent No. US20010039331A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 13; Conserv
                                                                                                                                                         PRIOR APPLICATION NUMBER: 60/188,032 PRIOR FILING DATE: 2000-03-09 NUMBER OF SEQ ID NOS: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/09/822,635
CURRENT FILING DATE: 2001-03-30
PRIOR APPLICATION NUMBER: US 60/193,921
PRIOR FILING DATE: 2000-03-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Meyers, Rachel A.
TITLE OF INVENTION: 16836, A NOVEL HUMAN PHOSPHOLIPASE C
TITLE OF INVENTION: USES THEREOF
FILE REFERENCE: 10448-035001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Hunter, John J APPLICANT: Meyers, Rache
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS:
                                                                     LENGTH: 11
TYPE: PRT
                                       ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: consensus sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: SITE
LOCATION: (112)
OTHER INCREATION: Xaa equals any of the naturally occurring L-amino acids
OTHER INFORMATION: consensus sequence
                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: SITE
LOCATION: (116)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           694 FWNAGCQMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       148 YLMAGISDEDSLA 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               53 FWNAGCQMVALN 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                53 YLMAGISDEDSLA 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION:
                                                                                        119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Pative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 13;
Pred. No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
```

DB 10; 1

Length 102 Indels

0

Gaps

0;

```
US-09+927-112-8

Sequence 8, Application US/09927112

Patent No. US20020106774A1

; GENERAL INFORMATION:
                                                                                    ; OTHER INFORMATION: Consensus amino acid US-09-927-112-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; FEATURE:
; OTHER INFORMATION: consensus sequence
US-09-800-971-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   us-09|800-971-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               us-09-800-971-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 8, Application US/09800971 Patent No. US20020098577A1 GENERAL INFORMATION:
                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 17
SOFTWARE: FRASTSEQ for Windows Version 4.0
SEQ | ID NO 8
LENGTH: 128
      Matches
                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
Matches 12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                            TITLE OF INVENTION: 32544, a novel human phospholipase C and TITLE OF INVENTION: uses thereof FILE REFERENCE: 38155-20048.00
CURRENT APPLICATION NUMBER: US/09/927,112
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR FILING DATE: 2000-11-08
                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Millennium Pharmaceuticals, Inc. APPLICANT: Meyers, Rachel APPLICANT: Silos-Santiago, Inmaculada APPLICANT: Silos-Santiago, Inmaculada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/800,971 CURRENT FILLING DATE: 2001-03-06 PRIOR APPLICATION NUMBER: 60/187,453 PRIOR FILING DATE: 2000-03-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: 60/188,032
PRIOR FILING DATE: 2000-03-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: 16835, A NOVEL HUMAN PHOSPHOLIPASE C TITLE OF INVENTION: FAMILY MEMBER AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILE REFERENCE: 10448-023001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Rachel A. Meyers
                                                                                                                                  TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           694 FWNAGCQMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      694 FWNAGCQMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77 FWNAGCOMVALN 88
                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 79 FWNAGCOMVALN 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
    l Similarity
12; Conserv
      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.0%; Score 12; DB 10; Length 128; 100.0%; Pred. No. 0.0011; tive 0; Mismatches 0; Indels
                       100.0%;
                                            1.0%;
Score 12; DB 10; Length 128; pred. No. 0.0011; 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 12; DB 10; Length 119; Pred. No. 0.00099;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
```

```
20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; FEATURE:
; OTHER INFORMATION: Consensus amino acid
US-09-908-664-11
                                                                                                                              ; OTHER INFORMATION: Consensus amino acid US-09-908-664-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-908-664-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-908-664-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION
                                                                                                                                                                                                                                                               SEQ ID NO 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 20, Application UPatent No. US20020115178A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 11
LENGTH: 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 11, Application US/09908664
Patent No. US20020115178A1
                                          Matches
                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                       APPLICANT: TSai, Fong Yin
TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR ETLING DATE: 2000-07-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR FILING DATE: 2000-07-17
NUMBER OF SEQ ID NOS: 24
                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 24 SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Millennium Pharmaceuticals, Inc. APPLICANT: Meyers, Rachel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Tsai, Fong Yin
TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Millennium Pharmaceuticals, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                       LENGTH: 128
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Artificial Sequence
694 FWNAGCQMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              694 FWNAGCQMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     694 FWNAGCOMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     79 FWNAGCOMVALN 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 79 FWNAGCQMVALN 90
                                        Match 1.0%; Score 12; DB 10; Length 128; Local Similarity 100.0%; Pred. No. 0.0011; les 12; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Match 1.0%; Score 12; DB 10; Local Similarity 100.0%; Pred. No. 0.0011;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Meyers, Rachel
Rudolph-Owen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Meyers, Rachel
Rudolph-Owen, Laura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Application US/09908664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Laura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 10; Length 128;
                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

밁

79 FWNAGCQMVALN 90

```
В
                                                                                                                                                                                                                                                                                                                                                               US-09-835-996A-8
                                                                                                                                                                                                                                                                                                                                                                                   RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-835-996A-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILE REFERENCE: 28110/35915A
CURRENT APPLICATION NUMBER: US/09/835,996A
CURRENT FILING DATE: 2001-04-16
PRIOR APPLICATION NUMBER: US 60/197,137
PRIOR FILING DATE: 2000-04-14
PRIOR APPLICATION NUMBER: US 09/714,936
PRIOR FILING DATE: 2000-11-17
PRIOR FILING DATE: 2000-01-17
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR APPLICATION NUMBER: US 09/598,042
PRIOR FILING DATE: 2000-08-03
PRIOR FILING DATE: 2000-06-20
PRIOR PPLICATION NUMBER: US 09/598,042
PRIOR PRIOR PRIOR DATE: 2000-06-20
NUMBER OF SEO ID NOS: 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-835-996A-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Ballinger, Dennis
APPLICANT: Loeb, Debra
APPLICANT: Montgomery, Julie
APPLICANT: Tang, Y. Tom
APPLICANT: Zhou, Ping
APPLICANT: Zhou, Ping
APPLICANT: Liu, Chenghua
APPLICANT: Liu, Chenghua
APPLICANT: Asundi, Vinod
                                                                                                                                                                                                                                                                                                    Sequence 8, Application US/09835996A Patent No. US20020142953A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 1.0%; Score 12; DB 10; Best Local Similarity 100.0%; Pred. No. 0.0026; Matches 12; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 19, Application US/09835996A Patent No. US20020142953A1
                                                              APPLICANT:
                                                                                                   APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                           APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                              APPLICANT: Ballinger, Dennis
                        APPLICANT:
                                             APPLICANT:
                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: MATERIALS AND METHODS RELATING TO LIPID METABOLISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  335 SSHNTYLVGDQL 346
                                                                                                                                                                                                                                                                                                                                                                                                                                             303 SSHNTYLVGDQL 314
OF INVENTION: MATERIALS AND METHODS RELATING TO LIPID METABOLISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PatentIn version 3.0
                  Asundi, Vinod
Zhao, Qing
Wehrman, Tom
Drmanac, Radoje
Ren, Feiyan
Qian, Xiahong
Wang, Dunrui
                                                                                                                                                                              Tang, Y. Tom
Zhou, Ping
Goodrich, Ryle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qian, Xiahong
Wang, Dunrui
                                                                                                                                                           Liu, Chenghua
                                                                                                                                                                                                                                      Montgomery, Julie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wehrman, Tom
Drmanac, Radoje
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Zhao,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Montgomery, Julie
Tang, Y. Tom
Zhou, Ping
                                                                                                                                                                                                                                                               Loeb,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ren, Feiyan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qing
                                                                                                                                                                                                                                                               Debra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 10; Length 340;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
```

```
RESULT 15
US-09-908-664-2
; Sequence 2, Application US/09908664
; Patent No. US20020115178A1
                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                         ; TYPE: PRT; ORGANISM: homo sapiens US-09-804-969-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-804-969-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-835-996A-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: US 60/197,137
PRIOR FILLING DATE: 2000-04-14
PRIOR PPLICATION NUMBER: US 09/714,936
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR FILLING DATE: 2000-09-22
PRIOR FILLING DATE: 2000-09-25
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR FILLING DATE: 2000-08-03
PRIOR FILLING DATE: 2000-08-03
PRIOR FILLING DATE: 2000-06-20
                                                                                                                                                                                                                                                                                                                                                                                                               SOPTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn version 3.0
SEQ ID NO 8
LENGTH: 567
TYPE: PRT
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                              Query Match 1.0%; Score 12; DB 10; Length 762; Best Local Similarity 100.0%; Pred. No. 0.0055; Matches 12; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 15, Application US/09804969 Patent No. US20020081595A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 1.0%; Score 12;
Best Local Similarity 100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILE REFERENCE: 28110/35915A
CURRENT APPLICATION NUMBER: US/09/835,996A
CURRENT FILING DATE: 2001-04-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Sands, Arthur T.
TITLE OF INVENTION: NO. US20020081595A1el Human Phospholipases and Polynucleotides
FILE REFERENCE: LEX-0148-USA
CURRENT APPLICATION NUMBER: US/09/804,969
CURRENT FILING DATE: 2001-03-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 60/188,885 PRIOR FILING DATE: 2000-03-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Hu, Yi
                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: US 60/189,693 PRIOR FILING DATE: 2000-03-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 762
                                                                                                                                                                  335 SSHNTYLVGDQL 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               335 SSHNTYLVGDQL 346
                                                                                                                                               303 SSHNTYLVGDQL 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           303 SSHNTYLVGDQL 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Turner, C. Alexandabuin, Alejandro Friedrich, Glenn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Donoho, Gregory
Hilbun, Erin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Zambrowicz, Brian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nepomnichy, Boris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C. Alexander Jr.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 10;
. 0.0042;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 567;
                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
```

```
GENERAL INFORMATION:
APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Meyers, Rachel
APPLICANT: Rudolph-Owen, Laura
APPLICANT: Rudolph-Owen, Laura
APPLICANT: Tsai, Fong Yin
ITITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
ITITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
ITITLE OF INVENTION: 188155-20022.00
FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908.664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218.675
PRIOR APPLICATION NUMBER: US 60/218.675
PRIOR APPLICATION NUMBER: US 60/218.675
PRIOR FILING DATE: 2000-07-17
INUMBER OF SEQ ID NOS: 24
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 762
TYPE: PRT
ORGANISM: Homo sapiens
US-09-908-664-2
                                                                                                                       Вр
Search completed: March 28, 2003, 14:14:22
Job time : 41 secs
                                                                                                                                                                        Qy
                                                                                                                                                                                                                                  Query Match 1.0%; Score 12; DB 10; Length 762; Best Local Similarity 100.0%; Pred. No. 0.0055; Matches 12; Conservative 0; Mismatches 0; Indels
                                                                                                                    335 SSHNTYLVGDQL 346
||||||||||||
303 SSHNTYLVGDQL 314
                                                                                                                                                                                                                                     0; Gaps
                                                                                                                                                                                                                                     0;
```